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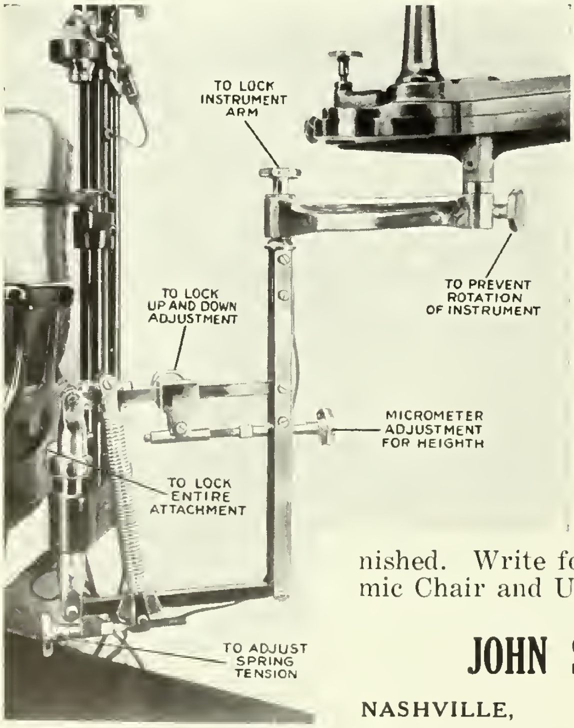
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Volume XXIV JANUARY, 1931 No. 1

THE MOST OUTSTANDING ACHIEVEMENT OF PREVENTIVE MEDICINE IN ONE HUNDRED YEARS*

DR. HUGH CUMMING, Surgeon General, U. S. Public Health Service, Washington, D. C.

It is a great pleasure to join in the celebration of the one hundred anniversary of this state medical society. The creation of a state medical society in such a pioneer period of your state speaks volumes, I think, for the wisdom of the medical men of those days.

Your society was preceded by very few in this country. I think you were the eighth. You are the senior by two years of the British Medical Association, and by seventeen years, if I recall correctly, of the American Medical Association.

I confess my pleasure at being with you, however, is somewhat lessened by appreciation of my inability to go through the past one hundred years of medicine or to pick out the most outstanding achievement.

Truly it has been an epoch-making period. It has been, as Tennyson says, "An age on ages telling." Within this short period, which is a mere exposure, as it were, on the long film of time in history, more has been accomlpished in all branches of science toward making life not only longer, but broader, deeper and happier, than in all the preceding ages, and in no branch of science has more progress been made than in the medical science, particularly, I think, along the line of preventive medicine and public health.

To start with, rather than to pick out any one particular incident, it seems to me that that one thing which has influenced the whole trend of the past hundred years, and more particularly the past twenty-five or thirty years, has been the change in the state of mind from one of speculation to that which Pasteur has so well expressed, "Investigate rather than speculate." Not, I think, that those of us in our immediate generation should cease to speculate, because the Bible says the nation without a vision shall perish, but we are not content to stop with speculation, but rather we want to investigate.

I have said this has been the most remarkable era in all history. Quoting the Bible again (it is a good thing to quote), you recall it says, "By their fruits shall ye know them."

Briefly, as the result of progress in the past hundred years, the death rate in one of our states has fallen tremendously. We won't go back a hundred years. Just in 1900 the death rate was 17.5 per 1,000. Now it is about twelve, roughly speaking, per 1,000, a decrease of fifty per cent.

The average annual smallpox death rate, from 1851 to 1870, in one of our states which kept the best registration, was 106 per 1,000,000. In the last twenty years in that state it has been less than one per 1,000,000.

The typhoid death rate in one of our states at the beginning of the Civil War, was seventy-nine, it was thirty-seven in 1890, and it was 0.8 per 100,000 in 1928.

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*Read before the Tennessee State Medical Association, Centennial Meeting, Nashville, April 8, 9, 10, 1930.

In you own state of Tennessee, as the result of the splendid work of your State Board of Health and the increased efficiency of the doctors and the application of knowledge, it dropped from thirty-eight per 100,000 in 1917, to about twelve.

In 1861 the diphthèria death rate was eighty-nine per 100,000, and it rose to 199 in 1876. After the recognition of the value of antitoxin in 1894, it dropped ten per cent a year for sometime, from 116 per 100,000 in 1890, for instance, to eight per 100,000 in 1925. Some of the states in which the toxin-antitoxin was generally used had even less than that.

One of the most remarkable decreases, of course, is in tuberculosis. In 1890 it was 259 per 100,000. In 1928 it was sixty-two. In this country at large it has dropped from 202 to 86. In this state, it has dropped at the rate, I think, Dr. Bishop told me, of three per cent a year.

In 1871, infant mortality was 151 per year. In 1872 it was nearly 200. In 1928 it was sixty-four.

I need not remind you of the disappearance of the great epidemic diseases, such as yellow fever.

But eloquent as are these facts, they are but as "sounding brass and tinkling cymbals" unless we know something of their causes and deduce from them lessons which will perhaps give us courage to accomplish greater things in the future. Were they the result of wisdom suddenly given us and our forbears of this one hundred years, coming uniquely, like Minerva springing full armed, from Divine source, or have they been the fruits of the ages during which, in the beautiful language of the Epistle to the Romans, "The whole creation groaneth and travaileth in pain until now, waiting for the redemption of our body."

Are we simply reaching some high crest from which we can but descend, as other civilizations have done, into valleys of ignorance and darkness, or are we steadily climbing an ever-ascending path which surely leads to a period where there will be permanently less of sorrow and suffering, and a fuller and richer life? And if the latter, wherein do we differ from other times?

Standing on some great peak as the sun sets, as those of us who live in the mountains have done, we can see other great peaks still aglow with light while the lesser hills and valleys are covered by darkness. And so in the history of medicine we can recall the past great periods and great individuals who have reached heights comparable to these times.

To evaluate what has happened; I think Billings, the great founder of the army medical library, has expressed it very well: "To isolate the history of medicine and to comprehend its curious ebbs and flows from medical writings only is like cutting a narrow strip from the center of a piece of tapestry and speculating upon the origin and purpose of the cut threads of patterns that may be found in it."

Garrison has said: "The history of medicine is in fact the history of humanity itself, with its ups and downs, its brave aspirations after truth and finality, its pathetic failures."

Looking back over history as far as we can, there have been evidences of appreciation from time to time of an existence of medical science.

You saw that wonderful pageant last night, and I do want to congratulate the gentlemen responsible for it. I have never seen anything like it.

The Babylonians went so far as to regulate medical fees and understood a considerable amount of sanitary engineering. The ancient Hebrews, as you recall, were the founders of public hygiene, as far as we know, and indeed the Mosaic laws have given us a system of medical jurisprudence and public hygiene as well as a weekly day of rest whose influence has reached down through the centuries and which to this day we cannot disregard with impunity.

In India there was an advanced state of medical knowledge, coexistent with the engineering and architectural period. The great conqueror Asoka, several centuries before Christ, provided a system of medical treatment and hospitals for the sick. In some of the writings of the fifth century they distinctly described malaria, attributed it to mosquitoes, and there is a passage in the Bhagatava Purana ' which warned people against the connection between rats and plague. Their therapeutics were well advanced, their materia medica was rich, and they demonstrated in that early day that skill in operative surgery which seems to have been a permanent possession of the Aryan race ever since.

Historic European medicine properly began in the golden age of Greece, the fifth century B.C., in that remarkable age of Pericles and Aristotle, when lived the father of medicine, Hippocrates, whom you heard last night describe his own achievements, whose influence has reached down to the present day and has given us the highest moral inspiration which we have had. It is unnecessary for me, after the pageant of last night, to tell of his achievements.

In other lines, too, the Greeks were so advanced that the city health officer of Athens got the equivalent of $2,000 a year in salary, which would probably be about $25,000 or $30,000 in these days. They had other district and city physicians who were appointed at handsome salaries.

Huchard says that the revival of Hippocratic methods in the seventeenth century and their vindication by the concerted scientific movement of the nineteenth century is indeed the whole history of internal medicine.

It is a rather strange thing that despite all that we owe the Romans in the way of law giving and sanitary engineering, they gave us very little of medicine. Virgil facetiously wrote that the Romans had gotten along famously for centuries without doctors until the effeminate Greek influence began to be felt. The only writings of note during the course of the Roman Empire were really those of Galen and a retired country gentleman, Celsus. But they did give us much in ventilation of buildings and sanitary engineering.

But that disappeared during what we call the dark ages. With the growth of Christianity and its influence and compassion toward weakness and suffering, we had new departures in medicine along untried paths, and particularly in nursing the sick and erecting hospitals for their care, which were rapidly copied in Bagdad and other Mohammedan centers. Yet despite all these movements in the upbuilding of universities and the building of hospitals and in the encouragement of individual talent, both by popes and emperors, and in the advancement of good medical legislation, the affairs of those days were under the ban of authority which was manifested in the suppression of experimental science and the verification of premises. Nature seems rarely to have been questioned for her secrets.

It is rather interesting, though, that even in what we call the dark ages there were occasional evidences of high development. King Robert of Sicily (and this is extremely interesting, I think) issued an edict forbidding the practice of medicine without proper examination, and his grandson, about a century later, required the study of logic for three years and surgery for five years, with clinical practice under experienced physicians for another year, followed by an examination upon the books of Hippocrates as prerequisite for practice. He prescribed fees and very good regulations for both municipal and rural hygiene.

Following this period, of course, came the thing that has ultimately had its influence upon us, the founding of the universities throughout Europe, which were thronged with students who in their wanderings from one institution to another began to diffuse knowledge. Medicine became a learned profession. Just at that time the term "Doctor of Medicine" began to be used. But the chief glory of the age was the establishment of hospitals. This, of course, was partly due to the Crusaders coming back with their leprosy. Europe was scourged with epidemics such as we have no record of either before or since. The plague was supposed to have killed one-fourth of the human race. Syphilis apparently started in Italy and, as you know, was spread as an acute epidemic. At the end of the period there were about 19,000 hospitals in

Europe. Quarantine was established in Venice, and there were many other hygienic improvements.

During the Renaissance, undoubtedly the most potent causative events which revolutionized the world were the introduction of fire arms and gun powder and the invention of printing. The former, and the constant wars of that period, naturally, perhaps, resulted in the development of that great anatomist, the most commanding figure, I think, between Galen and Harvey, Vesalius, and his pupils and contemporaries, with the great surgeon Pare, and generally in the development of surgery and the study of anatomy and gross pathology.

Despite the real advance by that queer genius, Paracelsus, and by Frascatorius, who, by the way, adavnced the theory of infection by micro-organisms, the determination of the venereal origin of syphilis and treatment by mercurials, medicine was largely composed of superstition and quackery.

But this is what I was leading up to: An apparent mere incident in the religious wars perhaps had a far greater influence upon the history of medicine and upon the world at large, in fact, than any of the better known events. That was the sack of Mainz, which scattered German printers all over Europe and resulted, in a comparatively few years, in the more rapid diffusion of knowledge in all branches of human affairs, but in none greater, perhaps, than in medicine.

Following that was the seventeenth century, the spacious age of Shakespeare, Milton, Rembrandt, Velasquez, of the great philosophers Spinoza and Locke, of great scientists such as Newton and Descartes, of the British settlements in this country, of individual intellectual awakening, and of Harvey, whose work exerted a more profound influence upon modern medicine than any man save Vesalius. It was the beginning of the microscope in medicine by Kircher, a Jesuit priest, and Leeuwenhoek, the beginning of histology by Malpighi, the birth of the physical theory of vision and of ophthalmology under Descartes and Mariotte, the beginning of physiological chemistry by Sylvius, and was the age of Sydenham, one of the greatest figures in medicine, who revived the Hippocratic methods of observation and experience and differentiated many of the epidemic diseases. More important, it was the period when the nations of western Europe were in the first stages of that great movement which culminated later in political and intellectual freedom.

In such an era were the beginnings of medicine in our country. Quite naturally, to the new colonies came a number of physicians, for instance in my own State, Dr. Lawrence Bohm, Physician-General of Virginia in 1611, and Dr. John Pott, the first physician to settle in this country and temporary governor of the colony; Dr. John Winthrop, Jr., the first governor of Connecticut; while to the Dutch Colonies came the Huguenot doctor, Johannes La Montayne, and Dr. John Fuller came over in the Mayflower.

The colonies soon took up the restriction of the practice of medicine and the regulating of fees. As you know, many of the young men of the wealthier class, after studying at Harvard or William and Mary, went over to Edinburgh, Leyden, or Paris. Naturally, too, many men, after inadequate apprenticeship, essayed to practice under frontier conditions, but thrown upon their own resources, with their powers of observation increased and with the artificial distinction between surgeon and physician necessarily abolished, developed a broad vision and a practical tendency which seems to have been characteristic of American medicine ever since.

During that old colonial period, with one epoch-making exception, apparently very little increase in the knowledge of medicine was made. That exception was Jenner's wonderful work, which you heard him describe last night in the pageant, which has probably saved more lives than any other single individual medical achievement.

I recently read a history of medicine in Canada, and I was very much struck with the devastation of small pox in all the colonies. Undoubtedly small pox did more to wipe out the eastern Indian and increase his antipathy to the white man than anything else.

The period marked by the foundation of this society was one marked by evidences of increased use of the powers of observation as evidenced by differentiation of diseases by such people as Bright and Addison and in surgery by the great work of McDowell and others, and by the introduction of percussion by Aneubrugger and, auscultation by Laennec. You would certainly think that in the most primitive times auscultation and percussion would have been noted.

But generally speaking, with the exception of some of these observations and the introduction of vaccination, the foundation of this society found our profession not so very much advanced, I think, over that of the golden age of Pericles or what we know of the anatomical knowledge of the Egyptians. It was an age of theories and speculations, with the exception of the increased knowledge of anatomy and surgery. The causation of disease was almost altogether speculative. Sepsis was taking its toll in childbirth and hospitals; a woman was practically doomed if she was taken into the maternity wards. Communicable diseases, such as typhoid fever and diphtheria, were slaying their thousands.

Every summer there came yellow fever, and what we often forget is, cholera, which swept the Mississippi Valley as well as the Atlantic repeatedly from one end to the other.

Just about that time, with increasing utilization of steam power on land and sea, there came quite a change. In the first place, it made the spread of disease easier, while the concentration of population into cities brought increased danger to the people, and interference with commerce made possible and indeed necessitated some organized governmental effort to prevent diseases.

This led to the creation of boards of health in such great industrial regions as Great Britain and Massachusetts, and their efforts to study the pathology and treatment of communities led to marked improvement in housing and sanitation and to a decrease in death rates.

On the fifth of June, 1866, there was organized here in this city your first board of health. Soon after there was a similar organization formed in the city of Memphis. I want to claim for my own state some small precedence. I think Petersburg, Virginia, claims to have had the first city board of health in 1679.

In 1874, your State Medical Society appointed a committee to prepare and present to the state legislature a bill providing for the establishment of a state board of health, and such a bill was passed in 1877, but it had no executive power, and during the summer of 1878 when the South was swept by an epidemic of yellow fever, it could do little but give timely advice to the people through publications. A little later on, probably owing to this epidemic, the legislature did give additional powers to your state board, and also a small appropriation of money; I think the secretary got $50 a month.

Following that year there was another epidemic which did much to create the sentiment which resulted in enlarging the activities of the board. Dr. J. D. Plunkett was the first president of your board, and Dr. J. Berrien Lindsley was appointed secretary pro tem.

This was the fourteenth board of health, I think, in this country, and in a large majority of instances undoubtedly these boards were the result of the repeated epidemics of yellow fever.

The wisdom of your board in determining almost immediately upon the development of local health work was early shown. One of its first acts was to draft an address to the people of Tennessee, urging the importance of the organization of efficient local health boards.

There was an early realization of the importance of vital statistics. I don't think I have ever read anywhere a stronger argument in favor of the keeping of vital statistics than in the early reports of your board.

It called together in 1879 the state boards of health of other states in the Mississippi Valley to organize concerted action against yellow fever, but it found that most of the states surrounding had no organized state board of health.

As late as 1881 you had only $3,000 a year to spend. The ratio of deaths in 1875, 1876 and 1877 from so-called zymotic diseases to the entire mortality was 26.62 per cent, the same rate as in Massachusetts. The ratio for the same three years of "consumption" to the total mortality was 14.29, while the average rate of "consumption" among the blacks was about 16.29 per cent.

Dr. Maury, who is one of your oustanding men, in those days, wrote a very clear account of his ideas of the transmission of yellow fever, in which he said it was probably carried from one place to another by the individual, and he urged (and that is the reason I mention it) that the entire coast quarantine of the country be placed under the control of the government of the United States and that the general government be authorized to control interstate regional quarantine restrictions.

It is very interesting to note in the report of the board the interest taken in the sanitary conditions of schoolhouses, prisons, insane asylums, and so forth.

There are many of you still alive who recall the dramatic improvement in Memphis almost immediately following the installation in that city by Colonel Waring of modern sewerage disposal plants.

The board showed its progressive spirit by immediately taking advantage of the statement of Koch on the etiology of diseases, which was made in 1882, and soon began an investigation into the question of bovine tuberculosis. It invited the attention of both state and municipal authorities to the importance of enforcing all such sanitary measures as would protect the food supply from infection, as well as for the purpose of stamping out the disease from among the cattle. So you have done your part in this gradual advance.

During the century, within the memory of many of us, there occurred in rapid succession a series of discoveries greater in their influence upon mankind and civilization than in the ages past. I am going to call your attention only to one or two things which are outstanding.

You remember the recognition of puerperal fever by Oliver Wendell Holmes and Semmelweiss, and the great result on the reduction of death in childbirth.

One of the greatest boons which God Almighty has ever given to mankind was the introduction of anesthetics in the forties, ether in this country by Long, and in '47, I think, chloroform by Simpson in Scotland.

But aside from those slow improvements there was little apparent difference in the death rate until the eighties. Most of the improvement was due not to any application of direct medical science, but rather to amelioration of the economic conditions among the people, some attention being paid to housing, in a general way to purification of the water supply.

Then there came in the last twenty years of the eighteenth century that remarkable revelation, as it were, because it almost seems a divine revelation, which culminated in Pasteur's great work. It is unnecessary to call the attention of doctors to the incidents which led up to the practical application of Pasteur's work in surgery by Lister, and Koch's further development, which was the application of the chemical knowledge of dyes and the isolation of individual organisms.

Then there came, even in my day, the knowledge of toxin-antitoxin and its effect. I had the honor (and I am not such a terribly old man at that, at least I don't think so) of carrying the first dose of antitoxin ever taken into my state. There were two children who had diphtheria. Dr. Kinnyonn had just gotten some antitoxin from Paris. He gave me some, and some was given to one of the children, but none was left to give to the other. The one who received it lived.

Then came the wonderful discovery of Theobald Smith, the transmission by insects of diseases of animals, followed by Manson's and Ross's great work on malaria, and then in quite logical sequence the demonstration which Reed and his associates made of Finley's theory of the transmisison of yellow fever.

It seems to me it is unnecessary to tell this to you who have heard it through your fathers or who yourselves know the effect of this work.

I have already told you of the result in this country of the application of antitoxin to clinical medicine (hundreds of thousands of children were saved), and the further application of toxin-antitoxin, and its modification in the states where it had been adopted has led to a further decrease in diphtheria.

In '98 I was stationed for a while in Chattanooga trying to keep the trains running and later in Jackson under Dr. Carter during the last great widespread epidemic of yellow fever. In 1905 we had the last case of yellow fever that I recall in this country, except two laboratory cases which have occurred in one of the laboratories this year, and not through accidental spread.

Following that discovery came the practical application of Roentgen's investigation of the properties of rays. Then came the discovery by Madame Curie and her husband of radium. These things piled one onto the other, very much as though the average individual were looking on a film of a moving picture which is being moved so rapidly that he is unable to get, in time, the true evaluation of the importance of any particular feature.

We are certainly heirs of all the ages in the foremost ranks of time.

I have hardly alluded to the work in tuberculosis. I have left that to the last, because it started, I think, not so much as a medical thing. (Dr. Osler and his associates in this country deserve credit for starting it), but because perhaps it was one of the first evidences of what we have developed in this country to such a marvelous extent—the voluntary health organizations.

In these latter days biochemistry has played its part. Goldberger's work with pellagra, Banting's work with insulin, the recent work on the use of liver in pernicious anemia—these things are rolling on so rapidly that it is hard to keep track of them.

I do want to speak, at the risk of tiring you, of some of the trends, as it seems to me, and I shall not weary you very much longer. In the beginning of the latter part of the seventeenth century and the beginning of the eighteenth century, liberty was the great cry. Many men died fighting for it. We are the heirs to what they did. There were also many people who used it as a means to an end, not absolutely to obtain liberty, but sometimes to obtain office and other advantages.

Our people through education by the medical profession, through the invention of the power press and the cheap newspaper and advertising, have gotten to know the advantage of and to demand public health. The medical profession, whether it be that branch which engages in what is called, in a mistaken idea, preventive medicine or what is called curative medicine—because you can't separate them—are trying to lead the efforts toward public health along well directed channels. We have to be somewhat careful that this power is not misdirected and scattered, and not left in the hands of people other than the medical profession and other than those who are really altruistic in their aims and ends.

I think the medical profession has reached a rather critical state at this time. I did not hear my friend Olin West and Dr. Fishbein tell you what they think of this movement from their standpoint, perhaps I have a little different one, but it seems to me we have come to a point (by we I mean the doctor, whether he be working for the government or not, whether he be engaged in treating the individual, which is more fortunate, I think, or in dealing with the population en masse) where it is necessary to think very carefully of the trend of things. If the medical profession, which is the most highly educated profession now in this country, the most capable of directing affairs, whether they be political or scientific, stands pat and looks backward, refuses to recognize the changing events, then the public undoubtedly will take into its own hands the obtaining for itself of good sanitary conditions and of those things which they think lead to public health.

If, on the other hand, the medical profession should see the necessity of going into politics, not in an offensive way, but taking that leadership in civic affairs which their obligation requires them to do, because a doctor is not an ordinary citizen, they might do a great good. From early times the doctor has been given a special and peculiar privilege by the government. He is examined to see that he is qualified for that privileged position, and with it should carry a very large sense of responsibility to the public. I think the foundation of public health and happiness, because you cannot have happiness without health, rests very largely in your hands.

The difference between our age and preceding ages, and the reason, I think that we are on a steady rise toward better things, is that in the olden days individuals had to shed as from a candle the feeble light which soon faded; in these days things must come up from the people. The individual doctor, the county medical society, must take upon itself the responsibility of working with its representatives, and they should see to it that there are capable county health officers and state health officers. The state medical society should work with the state board of health, and the state board of health should be assisted in so far only as it cannot do its full duty economically and efficiently, by the federal government.

You are exceedingly fortunate in this state (and I would say more about it if I didn't see him sitting here) in having as your chosen representative, Dr. Bishop. I have not been fortunate enough to see his work in the state, but I know of it from results. We look on him in Washington and he is looked on by the people we meet in New York as one of the two or three outstanding public health figures in this country. I am sure that he has your support.

At the risk of repeating myself, I want to urge the medical profession of Tennessee to continue along those lines, because I believe it is from your state, from my state, from the Southern states that did so much in this country in constructive statesmanship during the colonial period and during the critical periods which we have gone through, more than from any other part of the country, that constructive planning for changing conditions must come, and not from the great urban populations of New York and Chicago.

In closing, I want to quote a little couplet which we should bear in mind, I think: "New occasions bring new duties. Time makes ancient truths uncouth." We must think that over and use it as we go.

I thank you.

THE CAVERNOUS SINUS*

Archibald Cary Lewis, M.D., F.A.C.S., Memphis

A DEFINITION of the word *sinus* is "a dilated channel for venous blood, found chiefly within the cranium."

The cavernous sinus is a venous sinus extending from the sphenoidal fissure to the apex of the petrous bone and communicating behind with the inferior and superior petrosal sinuses.

The position of the cavernous sinus in the cranium, where it is surrounded by so many vital structures, makes it a subject of the greatest interest and importance.

We will pause here for a review of these anatomical relations.

Situated between the layers of the dura, one on each side of the body of the sphenoid bone, they extend from the sphenoidal fissure in front, where they receive and are practically continuous with the ophthalmic veins, to the apex of the petrous bone behind, where they end in the petrosal sinuses.

"The two are connected across the middle line in front, behind, and often below the pituatary body, by vessels which are called anterior, posterior and inferior intercavernous sinuses and which together form the circular or coronary sinuses. Each cavernous sinus is bridged across by fibrous bands, so that its cavity resembles cavernous tissue from which it derives its name. In the outer walls are the third, fourth and ophthalmic division of the fifth nerve, which lie in the order named from above down ward and from within outward. The internal carotid artery and the sixth nerve also pass along in the sinus separated from its lumen by its endothelial lining only." (1).

There are two pathological conditions of the cavernous sinuses of sufficient frequency and gravity to elicit the profound respect and interest of both the Opthalmologist and the Otolaryngologist. These are of course thrombosis and intracranial arterio-venous aneurism, or pulsating exophthalmos.

Other diseases affecting these sinuses are tumor of the cavernous sinus (rare) and pituitary disease. The latter, even with slight enlargement of the hypophysis, insures an extensive symptomatology on account of its anatomic relationship.

Every one who has had the misfortune to encounter a case of cavernous sinus thrombosis in his practice and has had the responsibility of the patient's welfare, will have an indelible impression on his mind of the symptoms and course of the disease.

While I have not experienced this misfortune, it has been my privilege to observe several of these cases and their inevitable ending.

Orbital edema with protrusion of the eye and chemosis of the lids are the most characteristic symptoms of the disease. The third and sixth cranial nerves produce the greatest changes in the position of the eyeball. They both traverse the cavernous sinus and for that reason disturbances within the sinus may be quickly communicated to them and produce squint with, or without, diplopia.

Thrombosis of the cavernous sinus is usually the result of septic infection. (H. C. Todd (2), reports a case of Aseptic Cavernous Sinus Thrombosis with spontaneous recovery.) The infection may be from above by traumatic inflammation; below by carries of the sphenoids and ethmoids; anteriorly by infective processes in the orbit or face and posteriorly from the ear through the petrosals. The petrosal sinuses and ophthalmic veins are the principal offenders.

As a result of a study of eight definite cases of cavernous sinus thrombosis and with necropsy on six of these Dixon (3) reaches the following conclusions:

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*From the Opthalmological Department of the University of Tennessee. Read before the Ear, Eye, Nose and Throat Section at the Centennial Meeting of the Tennessee State Medical Association, April 8, 9, 10, 1930, Nashville.

"1. Ordinary and trivial infections are usually the primary foci (lip, tonsil, teeth).

"2. Some form of trauma is usually associated with these primary infections.

"3. The thrombosis takes place by direct extension of the thrombophlebitis.

"4. The offending organism is most frequently the staphylococcus.

"5. The temperature is sustained and gradually increases and there is usually an absence of chills.

"6. Meningitis follows so closely after the eye symptoms develop that septic thrombosis of the cavernous sinus is a non-surgical complication.

"7. Reported recoveries were probably errors in diagnosis.

"8. Meningitis and Septicemia do not satisfactorily explain the rapid termination."

Pulsating exophthalmos was first described in 1809 by Benjamin Travers. He was not only the first to describe the condition, but was also first to describe its surgical treatment, and ligate the common carotid artery for its relief. This at a time antedating anaesthetics and antiseptics, was a remarkable performance.

Since that time there were 588 cases reported to June, 1923, and several have been added since Locke's review of the subject published in 1924.

Practically all cases of the traumatic type of pulsating exophthalmos are due to an intracranial arterio-venous communication. Seventy per cent of the fractures of the base of the skull involve the body of the sphenoid bone. In this region both the internal carotid artery and the cavernous sinus are comparatively immovable. For this reason their adjacent walls are easily injured by an underlying fracture. If rupture occurs with the fracture, the patient hears the bruit immediately, or as soon as consciousness is regained. If the vessel walls are only injured at the time of the accident, then the rupture and bruit may occur several weeks later.

Exophthalmos with pulsation may be due to a variety of lesions both intra-orbital and extra-orbital. Communication between the internal carotid artery and the cavernous sinus has been found to be by far the most frequent cause (5). "Thus the disease in the majority of cases is of intracranial origin, the protrusion of the eyeball and the other orbital symptoms being secondary and dependent upon venous obstruction." In this condition we have obstruction of the venous outflow of blood, which induces marked distension and varicosity of the veins. The blood current then becomes reversed, and the distended veins carry arterial blood. At this stage pulsation begins.

Impairment of the function of the second, third fourth, fifth and sixth cranial nerves may occur while paralysis of the abducens, which passes through the cavernous sinus in close contact with the cavernous portion of the internal carotid, is usually present.

At the February meeting of the Memphis Eye, Ear, Nose and Throat Society the author reported a case of traumatic pulsating exophthalmos. This case had been under his observation since the patient was injured in an automobile accident seven weeks earlier. He had all the classical symptoms, both objective and subjective, of intracranial arterio-venous aneurism. His left internal carotid artery was ligated by Dr. R. E. Semmes, and he was relieved of the pulsation and bruit which were most distressing. Since that report was made, all chemosis and exophthalmos have disappeared and the patient has returned to his work.

With the exception of a blind eye and an internal squint from paralysis of the sixth nerve, he seems to be little worse for the experience.

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DISCUSSION

DR. EUGENE ORR (Nashville): Mr. Chairman and Gentlemen: Dr. Lewis has presented a subject interesting from many standpoints, but especially so on account of its anatomical relations and on account of the part it plays in blood stream infections. My remarks will be confined to the latter phase.

When I think of the cavernous sinus, I think of it as a part of a large plexus of veins, said plexus constituting the veins of the head and face. The free communication makes it possible for the cavernous sinus to receive infected blood from almost anywhere about the head and face. This sinus receives the ophthalmic vein and some of the cerebral veins, it also receives the spheno-parietal sinus. It communicates with the latteral sinus, with the internal jugular vein, with the pterygoid plexus, and with the angular vein; also it communicates with its fellow. Cases of thrombosis of this sinus have been reported as having the primary focus situated in a sinus, tooth, tonsil and mastoid from an infection about the nose, lip, etc.

The sinus may become infected from caries in the upper part of the nasal cavities or suppuration in the posterior accessory sinuses in the same way as a latteral sinus is infected from a mastoiditis. I believe that many cases of meningitis are due to a spread of infection to the cavernous sinus, and thence to the meninges; also it is my humble opinion that in many cases of blood stream infection the infection gets in by way of this sinus without the definite picture of thrombosis as presented by Dr. Lewis.

In speaking of this picture, I would like to mention one condition which in many respects is quite similar; namely, mumps of the lachrymal gland complicated by the so-called sterile meningitis of mumps. I saw one such case recently and to add to the confusion, this particular patient had a pyclitis. She had the orbital edema with protrusion of the eye and chemosis of the lids, the eye was fixed and in about 24 hours the other eye took on the same characteristics. Palpation of the gland, together with other findings, of course, cleared up the diagnosis.

But to get back to the subject proper. What struck me most in Dr. Lewis' paper was items one and two, under Dixon's conclusions, namely: (1) Ordinary and trivial infections are usually the primary focus; (2) Some form of trauma is usually associated with these primary infections, and I would like to include under the heading of trauma, surgery of hyper-acute infections. This holds good not only for furuncles of the nose and lip which I believe everybody has quit opening in the so-called "green stage", but also I would include sinusitis, peri-tonsilar abscess, and mastoiditis. In other words, there is a time when these conditions are too acute for surgery. I wish here to go on record as condemning operations on what I am pleased to term, three day mastoids, and four day antrums.

The mortality in cavernous sinus thrombosis is extremely high, judging from reported cases only about seven per cent recover and by many writers the diagnosis in these cases is questioned. As to surgery of the sinus per se, many methods of approach have been advocated, among which might be mentioned, sphenoidal route, Gasserian ganglion route, orbital route, and through the petrous portion of the temporal bone. Surgery has been entirely unsatisfactory; however, if it is to be attempted, it should be done early, as the condition is soon a bilateral one; also meningitis is usually a very early complication.

On my part I would be inclined to follow a supportive line of treatment, including transfusions, but my hope of success would be scarcely appreciable.

After all, prevention is more important, and to my way of thinking, the preventive treatment is the conservative treatment of hyper-acute infections of the head and face.

A SUPERVENING ACCIDENT IN A MAJOR SURGICAL OPERATION
A NARRATIVE CASE REPORT*

Britt Burns, M.D., F.A.C.S., Memphis

BEING an unrhythmic narrative of a chilling misadventure, the event of an accident supervening to defeat plans carefully, judiciously and conscientiously laid.

On June 18th, 1920, I examined V. B., age 24, signal fitter, who stated that while repairing an interlocking switch and sitting between the rails that a switch engine backing up and approaching him from the rear, ran over him while in this position, and his body was rolled and dragged some distance before the engine came to a stop. He was taken from under the pony trucks of the engine. Several switch engines in the immediate vicinity were moving and ringing bells and he did not hear the oncoming engine in his rear. This accident occurred March 5th, about 8:30 a. m., 1920. He said that he was taken to a hospital at the station of injury, where he remained about six weeks. He mentioned that x-ray pictures were made on two different occasions and that those in attendance told him that there were no broken bones and that he would be well in a short time.

Examination: I find a well nourished young man probably about fifteen or twenty pounds less than the normal, but in good health. Normal head, upper extremities, and trunk, and a normal right lower extremity with the exception of a slight flat foot. The left lower (injured thigh) extremity shows about an inch and three-quarters shortening. The circumference of the injured thigh and leg is about one inch less than the right or uninjured extremity. This latter being due to atrophy of the muscles from non-use. The trochanteric dimple in the left side is obliterated. The movement of the head of the femur in the acetabulum is fairly free and very little restricted, although these movements produce considerable pain.

Diagnosis: A diagnosis of fracture of the neck of the femur at its trochanteric junction is quite easily and readily made. This was confirmed by x-ray pictures. The radiograms show the neck of the femur to be in almost a normal line broken off from its natural junction with the femur and is attached an inch and three-quarters down on the shaft of the femur at the site of the lesser trochanter; the lesser trochanter having been torn away by the upper fragment. There appears to be right firm union of the upper fragment in its new location and attachment on the shaft of the lower fragment.

This young man has had a flat foot with marked eversion all of his life, quite a marked deformity. This refers to the left or injured member.

An orthopedic surgeon saw the patient with me. He concurred in the diagnosis and in the treatment outlined. The patient was placed in St. Joseph's Hospital late in the afternoon of June 21st, where his injured thigh was shaved and put in a cleansing process preparing the skin by soap poultices, alcohol packs, shaving and scrubbing and painting with iodine; this was carefully and continuously kept up until the morning of the operation, June 24th. He was taken to the operating room at 8:45 a. m. and the operation was started at 9:05 a. m., and was finished at 10:45 a. m. He took the anaesthetic apparently satisfactorily at the beginning, but by the time we were well into the operation his blood became very dark and he showed marked evidence of cyanosis and from that time on it was necessary to keep him under restoratives, atropine, camphorated oil, caffeine, and inhalation of oxygen, and finally he was given intravenous transfusions of normal salt solution. After the operation he was left on the table in the operating room about two hours waiting for sufficient resusitation to permit moving him to his bed.

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*Read before the Railway Surgical Section of the Tennessee State Medical Association, Centennial Meeting, Nashville, April 8, 9, 10, 1930.

The above restoratives were given at regular intervals continously thereafter, but there was never much improvement in his condition of shock. On Friday, June 25th, at noon, his temperature rapidly jumped up and by 4 o'clock p. m. was 104½. Obviously, it was too early for fever from infection and if such was the case the temperature would not be that high nor rise so rapidly and I felt sure that there was only one condition that could produce such a high and rapidly rising fever and that namely a malarial paroxysm. At 8:00 p. m. I took a blood spread and found a double malarial infection; the two varieties of malarial parasites found were quartan and spring tertian. Several nearly half grown quartan parasites were found and several large pigmented parasites were found. I made this blood examination myself and same was checked and confirmed by Dr. L. V. Schmittou, the pathologist in charge of the laboratory at St. Joseph's Hospital. The stage of growth of these parasites would indicate that he had a malarial paroxysm, probably of the quartan variety, at the time of the operation, which condition added to and aggravated the shock. A blood examination was made in this case, as is my practice in all cases and is a hospital requirement, on June 22nd, and no malarial parasites were found. The history of his case shows that he had no previous illness except measles, whooping-cough and chicken-pox, and no previous injury. He had a perfectly normal temperature while under my care up to the incidence of fever mentioned above. When I discovered that he had fever I then asked him if he had ever had chills and fever and he told me that he believed that he had two or three chills in the summer of 1918.

He died June 26th, about 6:30 a. m. The cause of death was shock aggravated by double malarial infection.

Operation: Open operating; cutting down upon joint, at and over the great trochanter, opening capsule; breaking up the loose union between the neck of the femur in its new attachment partly at the site of the lesser trochanter and partly upon the shaft of the femur. All blood vessels were tied as they were cut. Very little blood was lost—there are no large blood vessels in this region. The fractured ends of the fragments were freshened and the neck was placed in its place with a ten penny wire nail—after the method of John B. Murphy and others. The thigh was put up in abduction—the top of the great trochanter against the ilium—with slight internal rotation. The cast was applied from the foot to the axillae; the cast was carried in figure of eight around the pelvis and both thighs—cast extending down to the middle third of the right or uninjured thigh.

Conclusions: For the cure of injuries of this nature this is the operation commonly done; some surgeons using wire nails; square steel spikes; some using beef bone dowels from the patient's opposite tibia. Operations upon the thigh, of long duration, may produce shock, but rarely inordinate in character. Cures are usually satisfactory with little deformity or shortening and perfect or nearly perfect function. Non-union sometimes occurs and failure results. Where the deformity is not too great and firm union is established, it might be the part of wisdom to forego surgical interference.

This young man had a shocking deformity nearly two inches shortening; a vicious union, and to a foreign site on the femur, and the union, upon operation, proved very loose indeed, requiring very light pressure of the chisel point to separate the new attachment. He could not bear his weight upon the injured extremity. And had he borne the weight of his body upon the loose and poorly organized union, the neck would have been pushed upward at its outer extremity and there would have been further shortening—greater deformity.

The patient was apprized of all of the phases of the procedure. How that it was not entirely devoid of danger in itself; danger of infection, danger of anaesthetic; the many weeks in the hospital in a body cast during the heat of the summer, and that he must of necessity suffer pain—maybe great pain. He knew his deformity and came to have it corrected. He had seen all of the x-ray pictures and wanted his thigh restored to as near normal as possible.

After thorough examination, full consideration of all of the phases of the anamnesis and physical findings, especially the patient's apparently perfect physique and health, and proper consultation and concurrence of the consultant, the open operation was decided upon and carried out.

Copy of the Roentgenologist's report is herewith attached.

"Name, V. B. Case No. 6183. Regions examined, stereoscopic plates were made of the entire pelvis. Stereoscopics were also made of the sacro-iliac synchondrosis. One flat plate was taken of the upper extremity of the left femur in the antero-posterior position.

"Another flat plate was made of the same region in the oblique position, the tube being to the patient's right and just above him (patient on his back), and the plate lateral and slightly posterior to left upper thigh extremity.

"There was found an old fracture involving the upper end of the left femur, the line of the fracture occurring at the junction of the neck with the shaft. The neck was driven apparently downward and into the shaft splitting off the lesser trochanter which is seen displaced downward and inward.

"The axis of the neck is slightly more vertical than normal.

"The amount of shortening of the femur is considerable.

"Quite a lot of callus is present, but union is probably defective.

"Am unable to find any evidence of injury to the sacro-iliac joint.

(Signed) "H. P. C."

SOME LOCAL MANIFESTATIONS OF SYSTEMIC CONDITIONS*

H. E. CHRISTENBURY, M.D., Knoxville

NO DOUBT this paper will be quite elementary to this body, but my thought in presenting it, was to review some of the most common and many times worrisome, conditions we meet in our daily practice. Many of these conditions try the patience of both the patient and physician, if the underlying cause is not found and corrected.

The Eye: As we all know the eye is subject to various and numerous conditions and symptoms, which are secondary to disease and infections in other parts of the body. I shall limit this brief paper to some of the most frequent eye symptoms with which we are forced to deal.

Phlyctenular Conjunctivitis: We know its characteristics, but many times are at a loss to place the cause; as to whether it is due to a so-called scrofula, tuberculosis, eczema, poor hygiene or other causes. The history and a general study of the patient is very important, in order to obtain the most satisfactory results in these cases.

Phlyctenular Keritits: This, as we know, is often secondary to phlyctenular conjunctivitis. It may be the result of the presence of a foreign body, a misplaced lash, or a burn; but many times is due to a bacterial infection, sinusitis, bad teeth, infected tonsils, gastro-intestinal intoxication, tuberculosis (local), or syphilis.

Barring trauma and ulcers, we have been taught that about eighty percent of phlyctenular keritits is due to syphilis. Probably this is true, but allow me to suggest that there are other causes, and insist that we make a most thorough study of these cases, so as to remove the cause as early as possible and save the patient's vision. I am sure that we have all seen many of these cases which have been treated as a case of "sore eyes", and much valuable time and vision have been lost, because of the fact that an early and correct diagnosis was not made and proper treatment instituted.

Corneal Ulcers: Much vision could be preserved if the cause of the ulcer was determined and proper treatment instituted early, instead of being treated as a mere local condition, unless we know that it is such.

Iritis: Barring injury, iritis is a symptom of systemic infection. It is classed by some authorities as being primary and secondary. I have my doubts about it ever being primary, but always a manifestation of toxin or infection. Iritis should be classified and treated according to its cause. Viz: syphilitic, tubercular, rheumatic, gouty, gonorrheal, diabetic, septic, auto toxemic, cachectic and sympathetic.

We may have iritis in a number of diseases which may be classed as subdivisions of the above named causes, such as acute infectious diseases, pyorrhoea, alveolar abscesses, tonsillitis, naso-pharyngitis, sinusitis, otitis media, bronchitis, gastro-intestinal intoxication, pelvic diseases, menstrual disorders, prostatitis, pyelitis, anemia, diabetes, arthritis deformans, trophic nerve disturbance, as in reflex dental and malarial infection.

Theobold says that syphilis is the cause of about fifty per cent of the cases of iritis, and focal infection about twenty-five per cent. In my experience I feel sure that his percentage on focal infection is none too high. In this, as in the above mentioned diseases or symptoms, we cannot be too careful or take too much time to try to determine the cause.

Episcleritis: As we know, episcleritis is secondary to some systemic disturbance, but it is not easy to determine the cause, but is usually due to gout, rheumatism, enterogenous, or auto-intoxication, infectious diseases, tuberculosis, etc. I have found many cases which were evidently due to influenza, exposure to bad weather, or sinusitis. To obtain satisfactory results in its treatment the cause must be found and eliminated if possible.

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*Read before the Eye, Ear, Nose and Throat Section of the Tennessee State Medical Association, Centennial Meeting, Nashville, April 8, 9, 10, 1930.

Retinitis: Retinitis, like iritis and choroiditis, may depend upon constitutional disorders, altered statis of the blood and blood vessels, infections, auto-intoxication, toxins and traumatisms, or be due to an extension of diseased processes from an inflamed iris, ciliary body or choroid; that is, retinitis is either primary or secondary. Its causes are about as numerous as Pharoah's plagues. Some of the most common are: syphilis, nephritis, diabetes, gout, artereo-sclerosis, extensive cutaneous burns, scurvy, purpura, grave anemias, toxemia of pregnancy, jaundice, typhoid fever, suppressed menstruation, sepsis, malaria (with anemia), exposure to excessive light, exposure to cold, Bright's disease, prolonged accomodative strain, cardiac disease, rhinitis, passive hypermeia and hemorrhage, atrophic rhinitis, inflammatory infiltration in the optic nerve; thrombosis of the central artery, due to endarteritis, blood alterations, severe hemorrhage, thrombosis of the central vein due to organic heart disease, disease of the cavernous sinus, sinusitis, facial erysipelas, and still other conditions, many of which it is some times necessary to eliminate before we can find or get at the real cause.

Hemorrhage: Eliminating trauma, high degrees of myopia and glaucoma, hemorrhage in the eye is always a sign of systemic disease. It is the red light or danger signal that there is something out of order in the system. It may be caused by high blood pressure, artereo-sclerosis, nephritis, miliary tuberculosis, malaria and syphilis.

I am discussing hemorrhage in order to call the attention to its significance, as it is of great prognostic value. We know that hemorrhage in the eye of a patient with artereo-sclerosis is many times a forerunner of hemorrhage of the brain. Its early detection and immediate action upon the cause may prolong the life of some of our patients.

Cataract: I may be attempting to cover too much territory in mentioning cataract in this paper, as there is much that we do not know about it, but I am convinced that many cataracts are a result of systemic disturbances and many cases probably could be prevented by our most earnest effort to eliminate causative factors. We know that senility and heredity take the leading role as causes for cataracts, but no doubt by a most careful study of our patients, as to their habits, surroundings, and general physical conditions and by a close cooperation between physician and patient many cases of blindness from cataract could be prevented.

We do know that focal infection, diabetes, nephritis, gout, malaria, cholera, influenza, meningitis, congenital syphilis, tuberculosis, rickets, tetany, artereo-sclerosis, excessive heat, electricity, lightning stroke, hookworm disease, extensive skin affections, pellagra, naphthalin or naphthol, ergot, disease of the deep eye structures of the eyes (uveitis), unchecked inflammatory glaucoma, "lifelong accommodative strain, due to uncorrected errors of refraction, high degree of myopia, retinitis pigmentosa, corneal suppuration", excessive exposure to glare, interocular tumors, detachment of retina, gastro-intestinal disturbance and oral sepsis, are conditions more commonly associated with opasities of the lens. In many of these conditions it is possible for the physician with the cooperation of the patient, to abort many of these cases which would otherwise go on to blindness.

Sudden Changes in Refraction: When a patient comes in complaining of some sudden change in their eyes, such as blurring of vision, "glasses leaving them", seeing specks or spots before their eyes, double vision, and many other such complaints, we had better go into a full history of their general physical condition, and have all necessary laboratory work done, a urinalysis, blood sugar, Wassermann, and blood pressure will many times reveal the underlying cause.

It is not infrequent for a patient to be referred to a specialist for some eye symptoms and we find it necessary to refer the patient back to their physician for a report on the physical condition. This is not a criticism but only calling the attention to the necessity of a good physical examination. There should always be the best of cooperation between the general practitioner and ophthalmologist. We owe it to our patients. The optometrists are fitting, refitting, and fitting again, or trying to fit, with glasses many patients with eye conditions which are secondary to some systemic infection, until many of these patients have gone over the danger line before they consult the ophthalmologist. This makes our problems harder and worries greater. Nothing but education can save these people, and much of this responsibility rests upon the physician. How and when it is coming about I do not know. By taking all the time and care that is necessary to arrive at a correct diagnosis of our patient's troubles, when they come to us for treatment, we will create a greater confidence in the profession, and these misled people will learn the difference between a real physician and a so-called doctor or spectacle man.

Before closing I feel that I owe this body an apology for offering this ABC stuff, but we hear and read so many scientific papers, I believe that it some times helps us to get back to more of our more common every day problems. This I have attempted to do in a feeble way, but I am expecting to gain some most valuable knowledge from the discussions.

DISCUSSION

HERSCHEL EZELL, M.D., (Nashville): The ocular manifestations of general diseases constitutes a large part of the eye disorders that the ophthalmologist is called upon to treat. It is therefore important to be able to recognize this relationship and to do it early. A discussion of the subject of necessity impresses one as elementary, but no apology is necessary on the part of any one for presenting an "ABC" paper on this subject.

The systemic diseases responsible for ocular symptoms and diseases are many, but the most common ones are syphilis, nephritis, tuberculosis, diabetes, rheumatism, arteriosclerosis, cardiac affections, infective diseases, chronic intoxications, diseases of metabolism and affections of the nervous system. Some of these diseases have a predilection for certain structures of the eye, while others, for example, syphilis, will attack all structures without fear or favor.

There has been considerable discussion as to the manner in which ocular inflammations are set up, that is, whether it is due to bacteria or toxins, or both. In most instances there is ample evidence that bacteria are carried by way of the blood stream to the eye and by their activity upon a particular eye structure liberate toxins. It is the exception and not the rule when the primary lesion is situated in the eye or in its enveloping structure and in such an instance one would expect to find both bacteria and toxins.

The term inflammation as ordinarily defined and conceived comprehends a pathologic condition characterized by the presence of bacteria at the sight of the activity, however, there is much evidence to show that bacterial toxins can produce similar lesions. It may be impossible to prove that bacterial toxins circulating in the blood are capable of doing this. On the other hand, it is impossible to prove that they are not capable of doing so.

Cases have been reported of uveal disease due to intestinal toxemia. Dr. Frank Allport reports such a case (in a ophthalmic record in 1912), who completely recovered his vision after appropriate treatment of his intestinal affection. On the other hand, "Dr. DeSchweinitz (Section on Ophthalmology, 17th International Congress of Medicine, London, 1913), speaking of the pathogenesis of chronic uveitis, concludes that there is absolutely no proof that any toxic substance elaborated within the tissues in the course of a so-called gastro-intestinal auto-intoxication, has of itself by its toxic properties produced a uveitis." I cannot understand why inflammations of the uveal tract cannot as easily be due to bacteria or their toxins from the intestinal tract as from any other focus of suppuration.

The all important thing is to establish that a given eye disease or symptom is due to some general disease. When this is done treatment can be directed to removing the cause as well as treatment of the eye affection itself with speedier relief for the patient as well as diminishing the likelihood of the return of the disease. To do this a thorough examination must be stressed. Every aid should be invoked, such as laboratory test for examinations of the blood, spinal fluid, feces and urine. Tests for syphilis, tuberculosis, gonorrhea and malaria must be done and will often give valuable data. We must not hesitate when need be to refer the patient to an internest who is fully alive to the various needs of the ophthalmologist. Nothing should be overlooked that may be necessary to establish a correct diagnosis.

The teeth, tonsils and intestinal tract are responsible for much of our eye pathology, but I fear not so much as we have come to believe. It seems to me that most of us think of focal infection, first, whenever we are confronted with a patient with an inflammatory ocular disorder and are likely to overlook some general causative disease. We, therefore, must be careful to give every possible cause due consideration.

A discussion of the many ocular manifestations of general diseases is impossible in the small time allotted to me. Furthermore, the author has done this very thoroughly and there is but little to be added to what he has said. However, there is one phase of the question that I would like to mention and that is the subject of cataract as a manifestation or complication of general diseases.

The essayist considers that cataract is in many instances a local manifestation of general diseases and there is every reason to believe that this is true. I think that it is the general conception that senile cataract is the result of general metabolic dyscrasia, but it may be due to some general disease as has been pointed out.

The relationship between cataract and disturbance of internal secretion has been considered by Schiotz (he recalls that various ophthalmologists have reported the occurrence of cataracts in association with lowered activity of the parathyroid, pancreatic and sexual glands and also in connection with hyper-secretion of the supra-renals and the thyroids.) ' Figures from his clinic show a preponderance of cataracts in women as compared to men.

In this connection, I am reminded of an address delivered recently by Dr. Geo. Cryle, of Cleveland, before the Nashville Medical Society, on the subject of the relationship between peptic ulcer and disturbances of the internal secretion. He has proven by considerable experimentation that a very close relationship exists between the two and he is strongly of the opinion that regulation of the internal secretion is capable of curing peptic ulcer.

If such a condition predisposes to peptic ulcer why would it not likewise be the cause of cataract? In the light of Dr. Schiotz's observation it is reasonable to believe that Dr. Cryle's theory will explain the cause of cataract as well as peptic ulcer. If this be true, it is altogether probable that in the near future it will be possible to prevent as well as to cure cataracts by regulation of the internal secretion.

The essayist is to be commended on presenting his paper in such a splendid manner on a subject which covers practically the entire field of medicine.

EYE INJURIES*

S. M. HERRON, M.D., Jackson

EYE INJURIES present such an infinite number of possibilities, so many differences in course, extent, symptoms and complications, that while we may receive some valuable points from experience and may lay down rules and principles applicable to many conditions, still each serious eye injury is largely a rule to itself and offers a most interesting field for study. It is not my purpose to burden this group with an exhaustive thesis on the subject. I desire rather to present the subject generally, for no paper of reasonable length can properly treat, in detail, a subject so varied and manifold.

I read some years ago of one who had listed seventy different pathologic conditions of the eye and orbit due to bullet wounds alone. The clinical pictures presented by traumatic lesions of the eye are practically without number. The diversity of structure and still greater the diversity of inflicting agents makes a complete catalogue of eye injuries impossible.

Never before in the history of medicine has the value of vision been placed so high —never have the demands of perfect vision been so exacting. Modern conditions have made ocular traumatisms more frequent with the increase of mechanical appliances, rapid transit, and the more general use of chemicals and gases.

Injuries to the eye are either penetrating or non-penetrating. Some of the most severe injuries to the eye have occurred from compression, contusion and concussion. Not long since a factory worker in a large sawmill presented himself with blind eye which had resulted from a small chip hitting him on one lid or the other. His work was not stopped, but several days later he consulted me in regard to his vision. There were no signs of trauma to the lids or globe. Examination revealed an almost complete detachment of the retina which later rendered him totally blind in this eye.

Mr. D. M. L., age 72, sent to me for consultation and to be advised enucleation, with a diagnosis of malignant growth of the right eye. Examination revealed a complete detachment and of long standing. A complete history of the case showed that the patient was knocked unconscious six years before by a lick on the back of the neck. Complete and detail histories are of much importance in all eye injury cases.

Penetrating wounds may be incised, lacerated or punctured, with or without the retention of the agent in the wound or eyeball. The treatment and the subsequent handling of eye injuries depends largely on whether or not the injury was recent or old.

In no other branch of opthalmology is a practical knowledge so essential. Important as it is that many eyes should be enucleated and quickly, it does not obviate the fact that no eye should be enucleated until each side of its case has had a fair and impartial hearing. The eternal question; shall we enucleate or not; operate or wait; remove foreign bodies now or later. Immediate decision on some point is imperative. There are two or three weeks in which you may safely wait; then why this rush to enucleate?

At the present I know of many useful eyes that escaped enucleation, because the patient refused. In November, 1928, I was called to the hospital to examine a Mr. L. D. S., whose eye had been hit with a stray bird shot. There was a wound in the conjunctiva about one-fourth inch below the cornea and to the temporal side. The anterior chamber showed hemorrhage. An opthalmoscopic examination could not be made. The lids and face showed numerous shot. The patient expressed his desire to have the eye removed, which was refused. Several days later an x-ray located the shot in the orbit. After the first three or four days, no pain was experienced. A later opthalmoscopic examination revealed a normal media and fundus. Six weeks later irido-cyclitic changes were noted with a shrinking of the globe and removal was advised. A dissection of the globe after removal showed the shot had not entered the ball, but had cut the sclera in such a way as to cause a distinct adhesion and evidently caused the changes above noted.

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*Read before the Eye, Ear, Nose and Throat Section of the Tennessee State Medical Association, Centennial Meeting, Nashville, April 8, 9, 10, 1930.

The case of M. W., age 8, came to the office within twenty-four hours after having been hit with a piece of iron which he was breaking with a hammer. The cornea presented a jagged wound in the center with some iris absent and a small amount of infection. The eye was dressed aseptically, eserine used and a pressure bandage put on. The infection grew more severe and at the end of six days, the eye was enucleated. Dissection of the ball, which was very tense, revealed the fact that puss had practically replaced the entire contents of the globe.

Mr. H. C., age 35, who was hit in the eye with a piece of rock which had been treated with creosote, presented a puncture wound of the cornea in the center. The eye was dressed in the usual manner and eserine was used. At the end of twenty-four hours the eye presented a very violent infection, with a swelling and redness of both upper and lower lids. The tension of the globe was markedly increased. The eye was enucleated with all the symptoms of a panopthalmitis. I have experienced no ill effects in enucleating all cases of panopthalmitis. I do not know of having read in recent literature of a case which resulted in meningitis from this type of cases; yet we know that in years past statistics showed many deaths from enucleation and both sides of the question were represented by some of our most able ophthalmologists.

We are all confronted with cases of punctured wounds of the cornea with protruding iris. The case of B. H., age 5, was seen about three years ago with a scissors wound at the sclero-corneal margin and the iris protruding. This case was seen about one week following injury. There was no infection. A distinct membrane encapsulated the wound and iris. Eserine and pressure bandage were used. The eye healed with no indications of irido-cyclitis complications. This case was refracted a few weeks past at the age of eight years and vision was 20/70 in the injured eye without glass. Plus one cylinder axis 90 gave 20/30 vision.

I ask your indulgence in the report of a case of Mr. R. T., age 36, who was hit in the eye at the sclero-corneal margin below with a 1/16 cotter key and who came eight hours later for treatment. The iris was in the wound and there was no foreign body. Eserine was used for three days with no result. At the third day an iridectomy was done. Eight weeks later vision without glass, under dilation was 20/200. Plus 1.50 sph. combined with Plus 0.50 cyl. axis 15, gave 20/15 vision.

A third case of injury is that of Mr. O. N., age 40, who presented a small fragment of steel embedded in the iris which had entered at the sclero-corneal margin below. This case was very recent and was taken to the hospital where a magnet was tried for a while with no result. The following morning the wound was reopened and made larger and the point of the magnet inserted toward the foreign body which immediately clicked to magnet and was withdrawn. Eserine was used, followed by atropine. A later refraction gave 20/20 vision.

From the three cases above reported we would be unable to draw any definite conclusions as to the best procedure. I have had some beautiful results from the conservative treatment of prolapse of the iris, yet I am persuaded that the safest procedure is to resort to prompt surgery, at least when the prolapse is in or near the ciliary region and when the injury is recent. Only in exceptional cases of prolapse and those seen rather late that I would not be inclined to resort to prompt surgery whether near the ciliary region or considerably within the corneal margin. Many times only a few fibers of the iris removed will suffice. The danger lies in the position rather than in the size of the wound. We know the eyes to be very tolerant of foreign bodies and I have seen cases where foreign bodies remained for years, but their presence, nevertheless, is a source of much danger and such patients should be under skilled observation. In the type of cases just mentioned, I have never seen much good accomplished from the use of Eserine and yet I know that we consider it our most valuable drug in the treatment of these cases.

A foreign body may remain in the lens for years with seemingly no ill effects; yet these cases should be closely watched. It has been said that an irido-cyclitis does not result from a foreign body in the lens strictly; yet we see cases where the pathology closely resembles that of irido-cyclitis and in such cases the lens can be removed. If the foreign body has passed through the lens and dropped into the vitreous and can be attracted by the magnet; we may remove by the shortest possible path. Many of these cases come to enucleation. I am of the opinion that a foreign body, when removed by the magnet, should be extracted by the shortest possible path. The magnet should be held at the lip of the wound until the foreign body presents itself. This causes a minimum amount of traumatism and reduces chances of infection. I believe to insert the tip of a magnet into the vitreous is not only unnecessary, but is a very dangerous procedure.

CONCLUSIONS

1. Use mild antiseptic cleansing in all cases.
2. Enucleate only such eyes as have been totally destroyed and then it is possibly better to wait three or four days.
3. Remove all magnetic bodies at once, if possible, those remaining to be removed when interference with the eye can be tolerated safely.
4. Patients with severe injuries should be kept in bed for a few days due to the possibilities of a detached retina.
5. Never interfere with an eye until you feel certain that you are now doing the best thing and that this is the best time to do it.

DISCUSSION

ROBERT SULLIVAN, M.D. (Nashville): We sometimes have a false security after examining an eye that has been injured when we find no perforation as an injury from blunt force. These frequently shatter the eyeball and may cause a traumatic cataract. A tear of the sphincter with hemorrhage into anterior chamber or a dislocation of the lens and not infrequently a rupture of the choroid, as for example, eye injuries from high explosives. Again we see cases with apparently little damage at first soon have a severe intra-ocular hemorrhage, secondary glaucoma, and finally enucleation.

Penetrating Injuries: The harm done is proportional to size of the foreign body with exceptions, also the point of entrance is of importance as well as the material entering the eye. The foreign body may lodge in the lens and the future of the lens and eye depends on the size, form and the matter of the foreign body.

Foreign body of iron may cause siderosis of the eyeball, while copper and brass produce only a chemical irritation. Lead, aluminum and zinc are better tolerated. Very small foreign bodies may penetrate the lens and remain there for years without causing more than a small opacity. We will all agree they are difficult to remove from the lens substance after becoming encapsulated.

No doubt some foreign bodies would be better left alone. The damage done to the eyeball in attempting to remove certain complicated cases where the foreign body has remained some time with no apparent irritation, may result in the loss of the eye. The cases seen early, where we have the F. B. accurately localized, and it can be removed without too much trauma, of course, should be operated. Personally, I prefer a fluoroscopic examination to x-ray.

Dr. Herron mentioned Sympathetic Ophthalmia: We all have seen those unfortunate cases, but not of late. I believe with our present day care in treating these cases from the beginning of the injury and careful observation, the removal of all foci which might play a part in producing an irritation, some very interesting reports along this line recently, with good results, gives us more hope for the future.

As to the use of Eserine: A very dependable drug, but we can't expect it to pull an incarcerated iris from a wound recent or old; it may have some influence, but why not cut the iris if it can't be replaced, with a spatula.

The after treatment of severe eye injuries is most important. With very few exceptions they should be kept in bed. The magnet cases, I believe, should be hospitalized at least a week or more. Otherwise, we may get a detached retina or intra-ocular hemorrhage. The prognosis of intra-ocular F. B. cases should be most guarded.

R. H. NEWMAN, M.D. (Knoxville): Dr. Herron has well brought out in this paper that there is no book on ophthalmology nor treatise on injuries of the eye which covers the vast number of injuries to which the eye is subject. Each injury is a distinct entity and must be so treated.

It is first essential for the eye surgeon to be well grounded in the anatomy, physiology and pathology, of the eye—and with these elementary facts in mind, and his experience in other like cases, outline the treatment for the case in question. In these injuries, as in other injuries, the fate of the eye depends a great deal upon its first definite treatment.

Since the eye is being treated along definite surgical lines with due regard to aseptic and antiseptic treatment, fewer infections are reported, and fewer cases of sympathetic ophthalmia are seen, fewer eyes are enucleated and more vision is preserved for the injured.

In the past ten years I have treated numbers of eye injuries and to this date have never had a case of sympathetic ophthalmia. I believe in giving the eye the benefit of the doubt when the question of enucleation arises. One can always remove the eye, but never replace it.

In the question of enucleation we have the same problem as in any other operation for the removal of an organ, and the same factors; namely, the definite loss of the usefulness of the organ and its remaining becoming a menace to the individual or to other organs.

I can remember several cases, which at first seemed that the eye was lost. Penetrating wounds with loss of vitreous do not every time result in the loss of the eye, nor entire loss of vision.

I have had a case under observation for more than three years wherein the eye was punctured just internal to the limbus, a large quantity of vitreous had escaped, the eye was practically in a state of collapse. The sclera and conjunctiva were tightly sutured, the eye filled with sterile salt solution and brought up to tension. The eye healed with very little reaction, and there is some vision remaining. The eye, cosmetically, is normal.

I may be skating on very thin ice but I am of the opinion that with the present-day treatment of eyes, sympathetic ophthalmia is a remote possibility and the eye-surgeon's individual judgment supported by his experience will enable him to enucleate the eye before that stage of danger is reached.

I have had one case of meningitis resulting from eye injury. This was a German soldier whose eye had been penetrated by a shrapnel ball. Lacerated tissue was thoroughly removed from the orbit along with the shrapnel ball and remnants of the eye. The wound was treated and all went well for four or five days. He was placed on the transport list for removal to a convalescent hospital. On the morning for his departure he had a severe headache, so was removed from the list and died a few days later of meningitis. An examination showed no fracture of the skull. So, evidently this infection traveled up along the optic tract to the brain. This wound was infected at the time of his admission to the hospital.

I heartily concur with the essayist in his treatment of intra-ocular foreign bodies. I think they should be removed if at all possible with the least additional further trauma to the eye, that is by the shortest route—accurate localization by x-ray, if necessary.

If the foreign body does not present itself through the original wound or a new incision, I have no hesitance whatsoever in introducing a small magnet point within the eye, or what is better, introducing a small steel instrument and then magnetizing this with the point of the magnet.

All gaping wounds should be closed and covered with a good conjunctival pad. Prolapsed iris should be excised, as I think it is not without danger to attempt to reduce the prolapse.

Dr. Herron failed to mention the after treatment. I am in the habit of using large doses of sodium-salicylat internally and some foreign protein, preferably milk injections to combat any infection present.

THE PHYSICIAN OF YESTERDAY AND TOMORROW*

DR. MURRAY B. DAVIS, Nashville

IT WILL doubtless seem presumptuous to a great many of the members of this society, especially the elderly ones, for me, who has had so little medical background, to write an address giving my views and impressions of the physician of yesterday and a surmise of what may be the doctor of tomorrow.

The views that I have on the physicians of yester-years go back only one generation, back to the days of my father and to the men of his class and time.

We of today are living in a great transitional stage of medicine in this section of this country. I have noted many changes that have taken place in these few years; changes in the education and appearances of the doctor, changes in the attitude of the doctor towards his patients, and changes in the attitude and feeling that the public has for the doctor himself.

I can recall my father, who was always neatly dressed, who on occasions wore a Prince Albert coat and carried a gold-headed cane. I can recall my great-uncle who practiced further back in the country, who made his calls on horseback until he was past sixty, who delivered all his babies under a sheet, and who dyed his hair and mustache with walnut-juice and carried his medicine in saddle bags, but who was impressive and dignified with it all.

I remember my first operation when my father amputated a crushed foot in a cabin with my mother giving the chloroform. When I recall these things and then see the many changes that have taken place, I can not help but wonder just what kind of an individual will the doctor of tomorrow be, and just what problems will confront him.

The doctor of a generation ago was a versatile individual—he had to be—he was a specialist on all branches, and was supposed to look after practically all of the diseases and accidents of the skin and all of its contents, which he did with remarkable skill and care; and at times he was called on to treat sick cows and horses. I have been amused at my mother telling me how old General Bright predicted the wonderful future of my father because he had done so well on the General's sick horse.

Contrast, if you will, the appearance of the doctor of yesterday and today. The present-day doctor's dress and mannerisms are no different from those of the average man. You don't hear people say today, "I can always tell a doctor by the way he looks and talks", as you did twenty years ago. The young doctor does not effect side-burns and a mustache to give him an air of dignity. Recently I saw a picture of years ago of one of our illustrious surgeons; he looks younger today than he did then.

It used to be that when a doctor came to make a call, it meant something. The family looked forward to his arrival, it was not a commonplace affair as it is today. To the laity he was a superhuman individual and not, as I am afraid he is fast coming to be in the eyes of the people, merely a highly paid servant. I can not help but feel that the medical profession is losing a valuable adjunct when it destroys in the minds of the people the feeling that the doctor is a man apart.

When we look back on the doctor of that day, when we remember that he "attended lectures" of two or three terms of six months each, when we consider his meager equipment, his methods of transportation and his many hardships and handicaps, to me he becomes an exceptional individual—what he lacked in education and equipment he must have made up in effort and zeal; he doubtlessly in many cases, sold powerful doses of personality and pitifully potent pills; but with it all was loved and respected, and it is this type of man that has given us pride in the work of the physician and honor in the title of "doctor".

Above a doorway in one of the temples of ancient Greece was an inscription which read,"Know thyself". The public of late years has become to make this a much sought after goal in a physical way. The educational campaigns that the medical profession has carried on in its various ways, has taught the people a great deal about their physical selves and has taught them that the doctors are not infallible; this has allowed the doctor to develop a policy of honesty that was the exception in the past.

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*Presidential Address, read before the Middle Tennessee Medical Society, Lawrenceburg, November 6-7, 1930.

Contrast, if you will, the physician of today telling his patient that he does not know what is wrong with him, but will try to work it out, with that of the past, with his wise looks, his air of mystery, and if pushed too hard for a diagnosis, his sometimes meaningless and deceptive phrases. I do not mean by this that the physician of the past was dishonest, he did only what the public demanded of him, or as George Bernard Shaw has said, "The family doctor dare not tell the unvarnished truth lest his patients change doctors", but now the education of the public has enabled the physician to be a squarer individual with his patients and much fairer to himself.

I have heard it lamented on the floor of this society that the doctor has become a commercial individual, and as time goes on we will hear it again, for the business methods of the medical profession of the past have passed away along with the saddle bags. No longer is it sufficient to send out bills once a year or to allow accounts to be settled, sometimes—*maybe,* or oft-times—*never.* The high cost of living has forced the physician to adopt up-to-date business methods and the doctor of tomorrow will perforce be a much more astute business man than his conferes of today, for already we are beginning to feel the inroads that are being made on the profession as a whole and it is my opinion that it will be felt more and more as time goes on. I refer to the works of the free clinics, semi-charitable institutions, health centers, insurance companies, and many other guilds, societies and organizations that are slowly but relentlessly robbing the medical profession of bits of its revenue. It is foolish for us to try to impose *Coueism* on ourselves—"every day in every way things are going to get better and better"—for, for the average medical man, one not connected with some kind of institution or organization, things are going to get worse and worse.

It has been said by someone that today is a day of specialties. The medical profession has followed the general trend of times by turning out more and more specialists. In 1910, 10 per cent of the doctors of this country were listed as specialists; in 1929 there were 25 per cent; and questionnaires of several authorities indicate 51 per cent of students today choose specialties before graduation. At this rate it will not be many years until we will all be specialists of some nature, and I wonder if we will not have then the special specialists, and might not some of the more enterprising members of our profession become the special specialist of the special, and so on, *ad infinitum.*

What does the future hold for the independent doctor of tomorrow? More and more of the people are coming to believe that medical care should be free like education. The signs of the times point more strongly than ever before to governmental or state medicine in some form. Different ones are continuously trying to regulate medical fees and hospital prices. Articles are appearing in some of our leading periodicals dealing with the high cost of being sick, the exorbitant fees of the medical profession, etc., and only recently a governor of one of our southern states, through the daily press, asked the medical profession to formulate a plan for cheaper hospitalization and medical care, and ended with the threat by saying, "We are asking you to lead the way, and if you don't, someone else will".

I have heard numerous doctors say that the American people will always have their private physician and that institutions will never supplant the individual practitioner. I have heard people say that they would never again go to a clinic, for there they did so much to you and so little for you. This will doubtless hold good for the majority of our present generation; but of the unborn generations that are to come there will be more and more people who have never had the treatment, care and sympathy of the individual physician, and never having known it will never miss it,—the health centers, clinics, etc., to them will be sufficient; and when that day comes, then the physician as we knew him of yesterday and know him today will be an economic impossibility—he will cease to exist.

One of our German conferes has depicted the physician of the future as, with the aid of the radio and television, taking a history, listening to the heart beat, and prescribing for a patient hundreds of miles away; and the day may soon come when this will be practical. Just what the future holds for the doctor, no one can say; we can only surmise as to whether he will still be an independent unit as he has in the past, or whether he will become merely a cog in a wheel of some organization; and I am inclined to believe the latter. However, we do know that if the same type of men go into the medical profession in the future as have gone into it in the past, that no matter what problems confront him, economic or otherwise, that he will work them out, as the medical profession always has, with this aim in view: that his first duty is to humanity.

THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the Interests of the Medical Profession of Tennessee
Office of Publication, 510 Doctors Bldg., Nashville, Tenn.

H. H. SHOULDERS, M.D., Editor and Secretary

JANUARY, 1931

EDITORIAL

Dues

As has been stated before, the membership year, the fiscal year and the Journal year of the Association now correspond to the calendar year.

Dues for any year should be paid on or before January 1st of the year for which they are paid. Dues for the year 1931 were due on or before January 1st, 1931. When the secretary of your county society makes a diligent effort to collect dues, please cooperate with him. He is doing his duty.

It is necessary again to state that this office does not accept dues from members paid individually. Dues must come through the local organization.

The membership for the year 1930 was 1,640. That is next to the highest number of members in the last ten years. This office has made numerous checks and studies of the list of doctors who are not members, and from all the data we have collected it seems there is not the material in the state with which to increase very much the membership beyond this figure.

If there are doctors outside of organized medicine in Tennessee who should become members, local societies must bring them in. Let's all pull together for a good 1931.

Hospital Benefits to Veterans of the World War

In several editorials that have appeared in the Journal in the year that has just ended, attention has been called to the fact that in the matter of hospital benefits to world war veterans with nonservice connected disabilities there lies a danger and a big danger to medicine in the United States.

In the December issue of the Journal the matter was discussed in some detail together with a proposal that was made in the House of Delegates of the American Medical Association.

In December 27, 1930, issue of the Journal of the American Medical Association, on page 1982, there appears under the heading, "Medical Bills in Congress", a list of bills that have been introduced recently in Congress which provide for the erection of hospitals for disabled veterans or for additions to hospitals already in existence. This list is reproduced in the hope that it will serve to emphasize in the minds of the profession the real hazard that exists and the magnitude and the far-reaching effects of such a policy.

Expressions from the profession of Tennessee on the policy are requested.

The introduction of these bills shows the attitude of a large number of Congressmen. It shows further the futility of the efforts of medicine to stop this program unless a better program of benefits to needy veterans is provided.

A program calling for the issuance of a disability insurance policy to each veteran on some basis will be constructive and not destructive, and by all means will be decidedly more economical to the government and equally available to every veteran. The list of bills is as follows:

Medical Bills in Congress.—S. 5064, introduced by Senator Broussard, Louisiana, proposes to authorize the erection of an addition to the veterans' hospital at Alexandria, La. S. 5071, introduced by Senator Smith, South Carolina, proposes to authorize the erection of a veterans' hospital in South Carolina. S. 5073, introduced by Senator Glenn, Illinois, and H. R. 14574, introduced by Representative Igoe, Illinois, propose to authorize an appropriation not to exceed $2,000,000 for construction at the Edward Hines, Jr., Hospital, Hines, Ill. S. 5074, introduced by Senator Glenn, Illinois, proposes the erection of an addition to the veterans' hospital, numbered 105, Chicago. S. 5081, introduced by Senator Robinson, Arkansas, proposes the erection of a 400 bed veterans' hospital in Arkansas. S. 5091, introduced by Senator Johnson, California, proposes to authorize the erection of an addition to the veterans' hospital at Livermore, Calif. S. 5092, introduced by Senator Johnson, California, and H. R. 14691, introduced by Representative Englebright, California, propose to erect a veterans' hospital in the inland part of California. S. 5093, introduced by Senator Johnson, California, proposes to erect a veterans' hospital in the southern part of California. S. 5102, introduced by Senator Carey, Wyoming, proposes to authorize the erection of a veterans' hospital at or near Thermopolis, Wyo. S. 5113, introduced by Senator Vandenberg, Michigan, and H. R. 14572, introduced by Representative Hooper, Michigan, propose to authorize the erection of an addition to the veterans' hospital, numbered 100, at Camp Custer, Mich. S. 5140, introduced by Senator Steck, Iowa, and H. R. 14453, introduced by Representative Campbell, Iowa, propose to authorize the erection of a veterans' hospital in Iowa. S. 5145, introduced by Senator Shipstead, Minnesota, proposes the erection of a convalescent hospital at the military reservation at Fort Snelling, Minn. H. R. 13568, introduced by Representative Ludlow, Indiana, proposes to authorize the erection of an addition to the veterans' hospital in Indianapolis. H. R. 14247, introduced, by request, by Representative Christopherson, South Dakota, proposes to increase the efficiency of the Veterinary Corps of the regular army by providing that officers shall be initially appointed in the grade of first lieutenant and shall be promoted after completion of the same periods of service as now provided by law for promotion of officers of the medical and dental corps of the regular army. H. R. 14443, introduced by Representative Crail, California, proposes to authorize the construction of additional hospital facilities at the Pacific branch of the National Soldiers' Home, Los Angeles County, Calif. H. R. 14457, introduced by Representative Evans, California, proposes to authorize the erection of an addition to the veterans' hospital, numbered 104, at San Fernando, Calif. H. R. 14561, introduced by Representative Hall, Mississippi, proposes to authorize the erection of an addition to the veterans' hospital at Gulfport, Miss. H. R. 14562, introduced by Representative Hull, Tennessee, proposes to authorize the erection of a veterans' hospital in Middle Tennessee. H. R. 14569, introduced by Representative Aswell, Louisiana, proposes to authorize an addition to the veterans' hospital at Alexandria, La. H. R. 14571, introduced by Representative Fuller, Arkansas, proposes the erection of a veterans' hospital in the northwestern part of Arkansas. H. R. 14686, introduced by Representative Christgau, Minnesota, proposes to authorize the use of the Mayo Clinic by the Veterans' Bureau as a diagnostic center and for the treatment of a limited number of the more serious ailments. H. R. 14690, introduced by Representative Edwards, Georgia, proposes to erect a marine hospital at Savannah, Ga. H. R. 14704, introduced by Representative Williamson, South Dakota, proposes to authorize an appropriation for construction at the Battle Mountain Sanitarium, National Soldiers' Home, Hot Springs, S. D. H. R. 14701, introduced by Representative Eaton, Colorado, proposes to authorize additions to the Fitzsimons General Hospital, Denver. H. R. 14682, introduced by Representative Schafer, Wisconsin, proposes to authorize an appropriation for construction at the northwestern branch, National Home for Disabled Volunteer Soldiers, Milwaukee. H. R. 14449, introduced by Representative Welsh, Pennsylvania, proposes to convert veterans' hospital numbered 49 in Philadelphia, to a diagnostic center.

DEATHS

Dr. Eugene C. Kensinger, Athens; Memphis Hospital Medical College, 1913; aged 44; died November 27 following an operation for appendicitis.

CAT.

Dr. Alberto Hudson, Nashville; University of Nashville Medical School, 1897; aged 58; died suddenly on December 11.

CAT.

NEWS NOTES AND COMMENTS

A group insurance policy covering the members of the Nashville Academy of Medicine and Davidson County Medical Society was put into force on January 1st. The amount of the policy is approximately one-half million dollars. The terms are very liberal and we understand other county societies will be offered the same policy.

Dr. R. E. Johnson, of Lebanon, was injured in a recent automobile accident. Several ribs were broken.

Dr. I. A. McSwain, of Paris, recently celebrated his eighty-fifth birthday. A great number of friends called to congratulate the doctor.

Dr. Tom Rice, of Friendship, celebrated his ninetieth birthday on December 6th. More than two hundred guests came to pay their respects to the gallant Confederate soldier.

Dr. W. H. Kittrell, of Mt. Pleasant, broke his collar bone when he fell on the asphalt street.

Dr. William A. Garrott, formerly of Memphis, announces the opening of his office, 706 Medical Arts Building, Chattanooga, for the practice of the diseases of the Eye, Ear, Nose and Throat.

Dr. Frederick E. Hasty, Nashville, has announced that his practice will be confined to Oto-Laryngology.

List of County Officers for 1931

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J. S. Hall, Clinton, Secretary-Treasurer.

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Madison County:

W. B. Eason, Jackson, President.
C. F. Webb, Jackson, Vice-President.
B. C. Arnold, Jackson, Secretary-Treasurer.

Maury County:

J. S. Covey, Culleoka, President.
W. E. Black, Columbia, Secretary-Treasurer.

Monroe County:

P. E. Parker, Sweetwater, President.
W. H. Arrants, Sweetwater, Vice-President.
H. M. Kelso, Madisonville, Secretary-Treasurer.

Polk County:

Thos. J. Hicks, Copperhill, President.
C. W. Strauss, Copperhill, Vice-President.
F. O. Geisler, Isabella, Secretary-Treasurer.

Roane County:

J. Morgan Clack, Rockwood, President.
G. P. Zirkle, Kingston, Vice-President.
W. W. Hill, Harriman, Secretary-Treasurer.

Robertson County:

S. J. Fentress, Goodlettsville, President.

J. S. Hawkins, Springfield, Vice-President.

W. F. Fyke, Springfield, Secretary.

Smith County:

R. E. Key, Carthage, President.

W. B. Dalton, Gordonsville, Vice-President.

Thayer S. Wilson, Gordonsville, Secretary-Treasurer.

Weakley County:

T. B. Wingo, Martin, President.

G. C. Thomas, Greenfield, Vice-President.

J. E. Taylor, Latham, Secretary-Treasurer.

White County:

A. A. Bradley, Cookeville, R. F. D. No. 5, President.

S. E. Gaines, Sparta, Secretary.

Williamson County:

J. W. Greer, Franklin, R. F. D. No. 2, President.

Dan German, Franklin, Vice-President.

K. S. Howlett, Franklin, Secretary-Treasurer.

Wilson County:

L. D. Cotten, Alexandria, President.

W. D. Cagle, Lebanon, Vice-President.

J. R. Bone, Lebanon, Secretary.

MEDICAL SOCIETIES

Bedford County—At the December meeting officers were elected for the ensuing year. Dr. G. W. Moody, the retiring president, read an interesting paper on "The Bright and Dark Sides of the Life of a Physician".

Blount County—The Blount County Medical Society met on the night of December 26th at the Druid Hill Tea Room. Dr. G. W. Buchfield, the retiring president, delivered an address.

The wives of the members were invited on this occasion.

Carter County—The regular meeting was held on December 2nd. Officers were elected for the year 1931.

Dr. W. R. Smith of the State Department of Health addressed the society on the "Diagnosis of Tuberculosis in Children", and Dr. W. G. Frost's subject was "Some of the Problems of Infant Feeding".

Cocke County—The Cocke County Medical Society were guests at a dinner given by Dr. and Mrs. E. E. Northcutt on December 10th.

Dyer, Lake and Crockett Counties—A meeting was held December 3rd, in Dyersburg. Election of officers headed the business session and program, which was held following a banquet in the Baird-Brewer General Hospital. The Board of Directors were hosts to members of the society and several other guests.

Dr. J. W. Wynne, Newbern, read a paper on "Reminiscences of Thirty-Five Years' Practice", and Dr. Richard C. Bunting, Memphis, presented a paper on "Some Clinical Pictures in Neurology". Dr. J. B. McElroy, President of the Tennessee State Medical Association, was present, and gave an interesting talk on "Organized Medicine".

Haywood County—On December 18, the society met in Dr. J. L. Edwards' office. Much time was spent considering problems connected with the new hospital given the community by Messrs. Mann Wills and W. R. Wills. Every member was enthusiastic in praise of the donors for their munificent gift.

It was announced at this meeting that a Tri-County Medical Society in which the physicians of Haywood, Lauderdale and Tipton would join, has now been organized and monthly meetings will be held alternately in these three counties.

Madison County—The regular monthly meeting was held at the New Southern Hotel, Jackson. Officers were elected. The business session followed a splendid dinner which was attended by a large group of medical men and their guests.

Drs. James W. McClaran and Jack Thompson presented a four-reel film illustrating their talk on "Surgery of the Extremities".

Dr. S. M. Herron spoke of the proposed county health unit and was appointed to represent the society before the county court at the January term.

Monroe County—Dr. J. A. Martin, of Sweetwater, gave a talk on "Influenza" at the December meeting.

Roane County—The society met on December 16th. Dr. J. Morgan Clack read an able and comprehensive paper on "Acute Osteomyelitis", followed by an interesting discussion. Several cases were reported.

Officers were elected to serve during 1931.

Robertson County—The Robertson County Medical Society held its regular monthly meeting December 16th, and members of the society were guests of Dr. and Mrs. C. F. DeLap, at their home on Boren street. At noon a delicious quail luncheon was served and the program was held in the afternoon. After a report of several interesting clinical cases, Dr. R. D. Moore presented a paper, the title of which was "The Heart". Following him on the program was Dr. John S. Hawkins, who had for his subject, "Criticism". Dr. Hawkins' paper made such an impression on the society that he was requested to present this same paper before the Middle Tennessee Medical Association, which will hold its meeting in Springfield in May.

White, Cumberland, Overton, Putnam Counties—The November meeting was held at the Lee Hotel, Sparta. After an excellent dinner, Dr. Johnson read a paper on "Caesarian Section", and Dr. W. A. Howard opened the discussion.

The next meeting will be held in Cookeville on the third Thursday of January.

PROGRAM FOR MEETING OF THE VANDERBILT UNIVERSITY MEDICAL SOCIETY

December 5, 1930, 8 P. M.
Amphitheatre of the Medical School

1. Case Report—*Congestive Heart Failure in Child Treated by Theocalcin*—Dr. John M. Saunders.

H. D., a 11-year-old white boy, admitted to the hospital for the third time with rheumatic heart disease and congestive heart failure. The previous attacks of edema had been treated with digitalis, but on this admission he failed to lose edema after salyrgan, theocine and ammonium chloride. He was given theocalcin, 3 gms. a day, for a period of two weeks, and lost 14 pounds of fluid during this time. Along with the loss of fluid his general condition was improved.

Case discussed by Drs. Dodd and Tinsley Harrison.

2. *Loss of Immune Substances from the Body*—Dr. James M. Neill.

The paper reported the occurrence of diphtheria antitoxin in the saliva of people and showed that the concentration of antitoxin in the saliva was related to its concentration in the blood. Data on the antitoxin contents of the secretions (saliva, sweat, urine) were reviewed from the standpoint of the general question of immune substances from the body.

Paper discussed by Drs. Garrey, Litterer, and Cullen.

3. *Amebiasis of the Skin*—Dr. Henry E. Meleney (Vanderbilt) and Dr. M. F. Engman, Jr. (St. Louis).

Two cases were reported in which rapidly spreading ulcers of the abdominal wall were found to contain the dysentery amœba (Endamœba histolytica). Ulceration followed resection of a portion of the colon because of obstruction due to amœbic ulceration in one case, and in the other drainage of an amœbic liver abscess. Identification of the amœba was established by tissue sections fixed in Zenker and stained with iron hæmatoxylin. Photomicrographs and camera lucida drawings illustrated the report.

Paper discussed by Drs. King, Brooks and Goodpasture.

4. *Motion Pictures of Hookworms*—Dr. H. S. Wells.

The pictures show details of blood sucking by the dog hookworm, Ancylostoma canium. The ejection of blood from the anus of the worm, the attachment to the intestine, and certain details of the suckling mechanism of the œsophagus of the worm were shown. The pictures were taken at various magnification, using an apparatus which was devised in the laboratory.

Paper discussed by Drs. Lamson and Meleney.

BOOK REVIEWS

PROTOZOAN PARASITISM OF THE ALIMENTARY TRACT—PATHOLOGY, DIAGNOSIS AND TREATMENT, by Kenneth M. Lynch, M.D. MacMillan Company, New York, Publishers. Price $3.75.

A source of real pleasure was that the writer's attention has been called to a publication on "Protozoan Parasitism of the Alimentary Tract", the author of which is a resident of the South.

All too frequently those whose publications on protozoan infectations appear from time to time in our journals, are of little learning and of smaller clinical observations and knowledge concerning their incidence and the phenomena associated with their infestations in man.

The author, Dr. Kenneth M. Lynch, Professor of Pathology in the Medical College of the State of South Carolina, at Charleston, and the publication of the work is by the Macmillan Company, covering 258 pages of legible type. Its introductory chapter on the life of Protozoa is so academic in style that to the student, and the profession as a whole, in whom this essential knowledge is meagre, this is interesting reading. These are the pages we would recommend every board of health head and employee on his sanitary force may read with profit to his charge: the public health.

The writer has for years pleaded for more attention by boards of health to those common and urgent duties which are theirs, to do something towards the control of an ever-increasing prevalence of human protozoan infections. We note the author's rather supine acceptance of orthodox theories of others concerning the pathogenicity of some of the protozoa, but this is rather to be expected of a university professor who would probably hold lightly his tenure of instructorship, if he boldly expressed an opinion at variance with others who have blazed the way and made skidding smooth.

The classification of Amebae and methods of identification are of common knowledge in any well equipped laboratory, as trustworthy, and the illustrations of pathology are the best and are taken from the most trustworthy sources. The classification and identification of the Flagellate is excellent and the same orthodoxy of their relationship to their host as usually observed is the method of reasoning as to their pathogenicity.

The treatment offered for eradication of this type of infestation is based upon a few trials by a few authors with few cases, which again shows the limited clinical experience upon which both pathogenicity and treatment is based.

There is to the writer's great satisfaction, more attention paid to these protozoa whereby those who peruse the pages of this book will be able to familiarize themselves with them, and more good may thus be achieved when the question is raised as to their pathogenicity, while clinical work is carried on by clinicians who may observe that supposed innocent protozoa do produce Avitaminosis and other syndromes. Even blood reactions which are characteristic of all intestinal parasitic infestations and sensitizations to their protean substances, etc., which would carry us into the discussion of individual theories unfair to the authors silence in reading matter.

The book is an excellent one for the general practitioner because of its classifications and descriptions of intestinal protozoa in man, and medical treatment of milder cases of Ameba Histolytica infections. —J. L .J.

AN INTRODUCTION TO THE STUDY OF HUMAN ANATOMY, by R. J. Terry, A.B., M.D. Published by the Macmillan Company, New York. Price $3.50.

A great many dissecting manuals have been published from time to time, and have served a useful purpose; but, as a rule, they have been very simple in form and have been intended as practical guides to the student in order to prevent those mistakes which obscure the ordinary and complete analysis of the material available in the dissecting room.

Dr. Terry's book is a manual of dissection, but it is considerably more than that. It is also a guide to methods of thought about anatomy in a manner which is quite unique. The study of human anatomy in the dissecting room has rather unfortunately come to be largely stereotyped, and has lost much of the vitality which should characterize all phases of the medical curriculum. This has been due to the fact that little more can be added to the specific knowledge of the structures of the human body by gross dissection. Gross anatomy, to be made as thrilling as all medical subjects should be, should be enlivened by the study of its relationships to comparative anatomy and anthropology on the one side, and to the constitutional problems on the other. Dr. Terry's book brings these and many other points of interest to bear upon each dissection. It is particularly rich in reference to the historical investigations which have been the great landmarks in the development of the subject.

It is a book which I should recommend very strongly to every teacher of anatomy, as I think much needs to be done (a point clearly in Dr. Terry's mind) to make the student feel that the time spent in the dissecting room is not merely routine dissection, but that he is rather participating in the study of the deeper meaning of human anatomy from a broad biological aspect.

—R. S. C.

BURNS. George T. Pack, M.D., and A. Hobson Davis, M.D. Published by the J. B. Lippincott & Company, Philadelphia and London. 364 pages with 60 illustrations. Price $6.00.

This is a very excellent and complete, yet concise, treatise on burns. This book is pleasing as is usual with Lippincott books, from a typographical point of view. The type column makes for easy readability, the type itself is large and exceedingly clear. The author presents his case so graphically that his language makes them visible.

This book is divided into three parts. The first is on Fundamental Facts concerning burns and scalds; the second, on the management of Thermal Burns, and lastly, the third part on Reginal Burns. Burns by specific agents.

The author follows Dupuytren's classification as is generally used on the Continent in Europe and also in the British Isles.

1. Erythema of the skin caused by a temperature of 140 degrees F.
2. Vesication. Caused by a temperature of 160 degrees to 210 degrees F.
3. Destruction of the cuticle and part of the cutis vera.
4. Destruction of the entire integument and part of the subcutaneous tissue: caused by a temperature of 210 degrees F. and more, over long exposures.
5. Encroachment on muscles.
6. Disorganization and charring of the tissue (carbonization).

There is an especially interesting chapter on Burns by War Gases.

All in all, it is a most timely work on a very interesting subject. It is very valuable to students and also to surgeons, especially those doing industrial work.

JOHN L. DIES, M.D.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By Hugh Barr, M.D.

Medical Arts Bldg., Nashville

General Considerations of Spinal Anesthesia. Edwin G. Faber, M.D., Denver. Colorado Medicine, December, 1930.

Solutions lighter than spinal fluids are more satisfactory as anesthesia thus produced is more controllable. Spinal anesthesia can be used safely and satisfactorily for any operation below the diaphragm. The chief advantage is the complete relaxation. It is of value in intestinal obstruction not only as an anesthetic but as a diagnostic and therapeutic agent. The author quotes from Dr. W. J. Mayo, who says that if no mechanical obstruction exists gas will pass in twenty minutes. Spinal anesthesia is especially advantageous in diabetics and pulmonary tuberculosis.

The dangers may be divided into two classes. Those that arise from faulty technique and preparation and those due to the patient's reaction after induction. Novocain poisoning occurs very soon after injection characterized by convulsive moments and respiratory failure. This danger can be avoided by barbital preparations given pre-operatively and by refraining from injecting novocain where the spinal puncture brings blood. The author had one death and one dangerous respiratory failure from novocain poisoning when barbital was not used.

The blood pressure drop is not regarded as dangerous as long as the patient's head is lower than his body, which prevents cerebral anemia, and when there are no other danger signals.

In the author's series of cases, that although the cell count showed some increase, there were no symptoms of cord irritation except headache, which was easily controlled.

The most important contra-indication to spinal anesthesia with the exception of spinal cord or cerebral disease is advanced myocarditis. Although the heart may show no evidence of incompetency and may adapt itself to the splanchnic dilatation at the time, frequent heart failure occurs in twenty-four to forty-eight hours. Highly nervous and apprehensive individuals are poor subjects for spinal anesthesia.

CLINICAL PATHOLOGY

By R. H. Monger, M.D.

Medical Building, Knoxville

Complement Fixation Test in Tuberculosis, American Review of Tuberculosis, November 1930. A. B. Wadsworth, E. J. Mallaner and B. S. Stevens, Albany, N. Y.

The authors studied the complement fixation test in 688 active cases of tuberculosis, in 20 inactive, and in 314 nontuberculous cases, about one-half of these cases were in clinics or sanitoriums, the remainder were patients of physicians in general practice. This series is of interest as compared with series previously published which consisted of only accurately diagnosed cases. In the former series the complement fixation was obtained with the tubercle antigens and from 85 to 95 per cent of the tuberculous cases, in the present series in 84.9 per cent. There were a few cases with tubercle bacilli in the sputum and some incipient with a low grade of activity in which no reactions were obtained. Reaction in the group of nontuberculous cases of this series were obtained in 14 per cent as compared with 13.6 per cent in the previous series. In general the degree of activity in the serum was proportional to the activity of the process, or, to state it more accurately, proportional to the reactivity of the tissues in the process, suggesting that a detailed study of individual cases and accurate titration of the activity of the serum from time to time might provide data of broad diagnostic or prognostic significance.

Blood Platelets Improved Indirect Method for Enumeration, Archives of Internal Medicine, October 1930. I. Olef, Boston.

The method devised by the author for the enumeration of platelets adheres to the leading principles that must be taken into consideration in counting platelets, by any method, namely avoidance of contact between the undiluted blood and glassware or metal, mixing of the freshly drawn blood as quickly as possible with the preserving fluid and avoidance of all unnecessary manipulations of the blood. It dispenses with the use of the graduated pipette and counting chamber. It eliminates the errors resulting from the inclusion in the platelet count of degeneration products of red blood cells and of fine particles of foreign matter. The results obtained by Olef are higher than ever previously obtained by similar methods.

DERMATOLOGY

By E. E. Brown, M.D.
Doctors Building, Nashville

Dermatologic Expressions of Internal Medical Diseases, by Fred D. Weidman, M.D., Philadelphia, Pa., California and Western Medicine, October, 1930.

Although this article is not especially adapted for an abstract it contains many points that would and should attract those who are interested in the internal causes of many skin diseases. The author takes up the various causes in the following order: (a) congenital, (b) blood borne, (c) lymph, (d) nerves, (e) the reticuloendothelial ramifications.

Under its respective head he discusses a few of the congenital diseases. He then takes up the blood borne diseases and discusses syphilis, tuberculosis and the tuberculids. Next he discusses metabolic diseases, pellagra, intercurrent disease, endogenous toxines, focal infection, rosacea, endocrines, neurological conditions, the senile skin and constitutionalism.

The article as a whole is a fairly good resume of skin and internal diseases.

Cancerous Moles. By Sidney J. Wilson, M.D., Ft. Worth, Texas. Texas State Journal of Medicine, December, 1930.

The author states that contributing negligence of an uneducated public that possesses groundless fear of having superficial tumors removed is responsible for the cutaneous manifestation of many cancers, and that if the public at large were properly educated in prophylaxis, cancer of the skin and oral cavity would be a rarity. Fortunately, most of the moles of the face are benign, but those that contain pigment and are subject to frequent irritation are very likely to become malignant. It is this type that he recommends should be dealt with as though they were already malignant.

He does not recommend biopsy or any particular method of treatment except complete destruction in one of the following ways: (1) excision, (2) cauterization, (3) x-ray or radium treatment.

INTERNAL MEDICINE

By R. B. Wood, M.D.
C. J. Carmichael, M.D.
Knoxville

Allergy and the Acid-Base Balance. Harry Beckman in Jr. A. M. A., November 22, 1930, Vol. 95, No. 21.

The author states he in no way wishes to discredit the theory of sensitization or the result of treatment by desensitization, but more or less facts are noted which make it appear that sensitization is not the complete story of allergy. Some of the facts are:

1. Skin tests give positive reactions in about 50 per cent of cases.

2. Clinical cure can exist in the presence of the offending substance in spite of the fact that the skin reactions remain positive.

3. Numerous persons give positive skin reactions though clinical allergic signs are absent.

4. Allergic persons are peculiarly susceptible to emotional influences and atmospheric conditions.

5. A voyage or a sojourn at a high altitude often brings relief to a sufferer whether he is pollen sensitive or not.

The allergic diseases have in common the following characteristics which can be looked upon as extrinsic manifestations of an intrinsic metabolic balance:

1. Tendency to be hereditary.
2. Rarely fatal.
3. Non-infectious.
4. Emotional upsets sometimes precipitate an attack.
5. One or more may affect an individual simultaneously.

6. The afflicted person continues to be susceptible throughout life.

7. Single attacks begin abruptly and decline gradually.

8. Between attacks there are no residual symptoms except those due to a secondary affair.

9. Attacks often abated or suppressed during the course of intercurrent infections noted for their effect on general metabolism.

The author concludes then that the immunity of the majority from allergic states is due to the fact that they are at all times in a state of complete metabolic balance.

An individual, when in normal metabolic balance, tends toward an acidosis, while the allergic one tends toward the production of an alkalosis —a potential alkalosis, in which the individual tends to have stored up an excessive amount of alkalies, or neutralizes the acid products liberated into the blood stream too rapidly. The author then calls attention to the fact that whatever means are used to alleviate he patient's suffering, it will result in reducing the alkalosis and the more toward the acid side the patient approaches the more immune from allergic conditions.

He calls attention to the fact that Joslin has seen but six cases of asthma in more than 6,000 diabetics, a disease in which there is a potential acidosis at all times. Walker reports having seen two diabetic cases in 2,500 to 3,000 asthmatics.

A decline in allergic disease was noted in the citizenry of the central powers during the period of undernourishment in the latter part of the world war, due to the metabolic influence of mild starvation—an acid producing mechanism.

Allergic symptoms at times disappear during pregnancy and it is known that decreased alkali is here sometimes noted.

Many have noted that acute fevers alleviate and at times relieve allergic symptoms during its course and for some time afterward.

Sea voyages relieve the pollen asthmatic and often those who are not sensitive to pollen through the development of a variable acidosis, at times accompanied by vomiting.

Sojourning at high altitudes is known to lower the alkali reserve, thus affecting favorably in the belief of the author, all allergic states.

Asthma is more easily treated in young individuals because the metabolic balance is more easily influenced than in elderly people.

Many workers have noted achylia or hypo-acidity in the allergic states, which the author believes is due to the fact that gastric secretion is influenced by the acidity of the blood and which in the allergic person is less than normal because of the potential alkalosis.

The beneficial effects of calcium in allergy has been noted. The author believes this is really acid therapy, thereby quoting Sollman, who states that in those cases where increase of blood calcium is obtained by the administration of its salts its results are due to the shifting of the acid-base balance toward the acid side.

The beneficial use of whiskey and acetyl-salicylate has been too much overlooked in the opinion of Duke, and the author interprets the good results as due to the alcohol being converted into CO2 and water, thus acidifying the tissues. Acetyl-salicylic acid causes a fixed-acid acidosis, decreasing the alkali reserve with respiratory stimulation and an unchanged P.H. reading.

The administration of mineral acids works toward the production of an acidosis, and the author reports on 237 cases treated with nitrohydrochloric acid, obtaining complete relief in 37 per cent, marked relief in another 30 per cent, as contrasted to complete relief in 19 per cent and marked relief in 51 per cent treated by the desensitization methods in the hands of others.

NOTE: One may well agree with the writer that specific sensitization is not the whole story in allergy, but not because reactions are not always obtainable and not because reactions are some times obtainable in the absence of pictures.

There are many who still believe allergy is due to an unstable metabolic system, whether due to endocrine, nervous or other factors. It well might be there is a disturbance in the acid base balance, but no proof is offered to show this is primary and not secondary to an imbalance originating elsewhere or that it always exists.

The article offers an interesting field in the way of preventive therapy as well as therapeutic relief, but should the production of an acidosis prevent or cure, allergy would not command the place it occupies as being at times therapeutically heart-breaking.

Symposium on Cardiovascular Syphilis in American Heart Journal, October, 1930. The Use of Intravenous Arsenicals in the Treatment of Cardiovascular Syphilis. Lawrence E. Hines, M.D., and Jones D. Carr, M.D., Chicago.

These men summarize their work as follows: A clinical study on the effect of neoarsphenamine on the symptoms of patients with cardiovascular syphilis is presented. Symptomatic improvement is believed to be a neoarsphenamine effect in 57 per cent of the cases. Twelve per cent showed aggravation of symptoms; probable anatomical damage was produced in three patients. No cases of sudden death or aneurysmal rupture were noted. A higher percentage of improvement is noted in patients who have syphilitic aortitis without definite aneurysm or aortic regurgitation. If the drug is cautiously administered in small doses, patients functionally classed 2B (American Heart Association) may be benefited by the drug.

Improvement in the serological reactions of the blood does not always parallel the symptomatic improvement. Although the lives of patients with cardiovascular syphilis are perhaps prolonged by neoarsphenamine treatment, there is no evidence in any case studied which shows that the disease was permanently arrested.

A Study of the Duration of Life in 141 Treated and Untreated Patients with Aortic Regurgitation and Aortic Aneurysm, by Joseph Earl Moore, M.D., and James R. Danglade, M.D., of Baltimore, Maryland.

1. The treatment of cardiovascular syphilis is best accomplished by a combination of such routine medical measures as rest, restriction of activities, and digitalis, together with antisyphilitic treatment.

2. An acceptable method of antisyphilitic treatment is based on the avoidance of therapeutic shock (the Herxheimer reaction) and the therapeutic paradox by starting treaatment cautiously with bismuth or mercury and the iodides, by the use of long courses of small doses of neoarsphenamine or bismarsen, and by the prolongation of treatment for a minimum of two years with alternation of these drugs.

3. A study of 43 patients with aortic aneurysm demonstrates that life may be prolonged from an average of nine months from the onset of symptoms in untreated patients, to an average of sixty-nine months in patients receiving one year or more of such treatment.

4. A study of 90 patients with aortic regurgitation and 8 with other forms of syphilitic cardiovascular disease shows that life may be prolonged from an average of thirty-two months from the onset of symptoms in untreated patients to an average of 65 months in patients receiving one year or more of such treatment.

5. These data seem to demonstrate that properly directed antisyphilitic treatment is of great value in cardiovascular syphilis.

Principles Underlying the Treatment of Cardiovascular Syphilis. Udo J. Wile, M.D., Ann Arbor, Mich.

The treatment of the syphilitic heart disease is always a treatment of the individual patient. Such cases as are amenable to antisyphilitic regime respond well if not pushed too hard and if treated before decompensation has occurred or after it has been temporarily relieved. The mechanical end-results of syphilitic disease of cardiovascular nature are in no way influenced by antisyphilitic treatment. In those cases of cardiovascular syphilis in which benefit is achieved, this occurs not only because dispersion of active processes in the affected part of the cardiovascular system, but in a large measure is due to the dispersion of remote foci elsewhere in the body.

Such foci if untreated must act as predisposing and contributory factors in the ultimate breakdown of the cardiovascular system. Fully compensated cases of cardiovascular syphilis which have a good background of early treatment are frequently cases which need not and should not be treated. Except for tryparsamide in certain selected cases of aortitis, better results are achieved by the conservative use of mercury, bismuth and iodide than by the arsphenamines. These comments are not intended as dogmatic, incontrovertible statements of fact, but are based entirely upon personal experience.

OBSTETRICS

By James R. Reinberger, M.D.
416 Medical Arts Bldg., Memphis

The Action of Thymophysin on the Human Pregnant Uterus in Situ, by M. P. Rucker, M.D., Richmond, Va. Amer. Jour. of Obs. & Gyn., December, 1930.

The author stresses the importance of knowing the action of an oxytocic upon the human pregnant uterus in situ before applying it in practice. Epinephrin was contrasted experimentally and according to Gunn the excised human muscle of the uterus contracted more markedly and more promptly to this drug than to pituitary substance. While in the intact human uterus marked relaxation was evident.

He reported four cases in which thymophysin was used after a voorhees-bag was introduced which was attached to a mercury manometer. In one case there was no change in the type of the contraction after one-half c.c. of the drug was used. In the second case in a premature labor at five months, there was a marked increased frequency and decrease force of the contractions and a marked increase in the tone of the uterus between connections after one c.c. In two other cases there were similar, but more marked changes in that there was an incomplete tetanus of the uterus lasting from 16 to 24 minutes.

He concluded that the irregular and many times prolonged tetanic action of the uterus following thymophysin was dangerous both to mother and child. The early history of the use of Ergot and Pituitin was recalled with particular reference to them being suggested as medical forceps or aids and advertised extensively as such until unfortunate accidents brought about a more discriminative use. This is compared with the more recent and similar phrases that are being used concerning thymophysin. The firm preparing this drug states that it never causes tetanic contractions and tenesvary calls it "Medicamental Dilator". Such results are contrary in his study.

The reviewer has not done the experimental work with thymophysin that the author has so beautifully worked out, but clinically feels that this new preparation is simply the old pituitary extract whose specific action has not been determined. He feels that where pituitary extract is indicated that he can obtain more safely and securely the desired action with small doses of a standardized pituitary extract alone or better combined with morphine and scopolamin.

OPTHALMOLOGY

By Robert J. Warner, M.D.
Doctors Building, Nashville

The Non-Bandage Method in Opthalmic Surgery. E. B. Rabkin. American Journal of Ophthalmology, November, 1930.

This method was used in sixty-two cases, comprising cataract extractions, iridectomies, magnet extractions, strabismus and tear duct operations, and miscellaneous surgical procedures. The conduct of the post-operative period without a bandage proved in many instances more advantageous than with a bandage. In observing strict asepsis the non-bandage method can be applied in the majority of operations on the eyeball, conjunctiva, lids, etc., without the risk of a secondary infection. This method is more economical in that it saves material, time and work for the physician. The frequency of complications and an unfavorable outcome is not greater, and the duration of the postoperative phase is shorter than in the bandaged cases. This method does not modify the microflora of the conjunctival sac. The use of a shield and the tying of the hands in order to avoid ocular trauma are superfluous, for neither they nor the bandage protect the eye from trauma in a certain class of patients. It is still necessary to verify in a large number of cases the advantages of the non-bandage method, and to study thoroughly its effect on the microflora of the conjunctival sac.

Coloboma Lentis. Benjamin Rones, Arch. of Ophth. August, 1930.

Several theories in explanation of the occurrence of coloboma lentis have been propounded. Hess attributed it to pressure on the lens resulting from persistence of the lens sheath. Heyl believed it to be the result of poor nourishment caused by lack of development of the sheath. Becker and Wessely felt that local insufficiency of the zonule lay back of the anomaly. Manz considered the associated coloboma of the choroid to be responsible. Collins and Mann sought an answer through a study of the development of the zonule of Zinn. The former thought that adhesions formed between the pars ciliaris retinae and the lens capsule, which later stretched and became fibers. A failure of such adhesions at any one point would result in (1) a lack of fibers in that portion of the circumference and, therefore, (2) absence of the normal traction with resultant lack of stretching and with consequent thickening of the lens border in the part of the lens so affected. Mann agrees with the latter part of this explanation, but not as to the formation of the zonular fibers. The author's case throws doubt on this theory in that slit-lamp observavtions show that the lens is thinner in the region of the coloboma. The slit-lamp also shows remnants of lens sheath on the capsule of the lens and on the remaining fibers of the zonule contiguous to the coloboma.

This latter observation leads the author to agree with Hess in his conclusion that the coloboma is the result of pressure, due to overlong persistence of the lens sheath in the affected area. The coloboma, which in the author's case also affects the iris, ciliary body, and choroid, is probably as demonstrated by Mann, the result of failure of the mesoderm to atrophy in the normal way, causing a deficiency in the neutral ectoderm of the optic cup and a disturbance of the surface ectoderm from which the lens buds off.

ORTHOPEDIC SURGERY

By Robert F. Patterson, M.D.
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Calf Milt Diet in Treatment of Suppurative Tuberculosis of the Joints. By Dr. Otto Fleigel. Journal Bone and Joint Surgery, October, 1930.

The author points out the extreme chronicity and seriousness of joint tuberculosis complicated by fistulae and consequent mixed infection. There is deficiency of mineral salts in these cases. The spleen has an active influence against infection and produces antibodies. It also takes part in mineral metabolism. Harrower has demonstrated that the calcium of the blood increases under the influence of the extract of milt.

These facts seem to justify an attempt to treat tuberculosis of joints by the administration of raw fresh calf milt substances. The following methods of administration have proved satisfactory:

1. Raw calf milt skinned and chopped with hot beef soup poured over it.

2. Raw calf milt skinned and chopped with vegetables.

3. Raw skinned and chopped calf milt mixed with spices, flour and egg, and fried in grease sufficiently only to obtain a brown surface.

4. Finely chopped waifers. Fifty to 100 grains are administered daily for one month. Patient then rests two weeks and the course is repeated several times if necessary.

In the cases reported remarkable improvement and even cures resulted. The method is harmless and should be tried in every severe case along with usual orthopedic methods.

Bilateral (Ninety Degrees) Rotary Dislocation of the Atlas Upon the Axis, by Paul W. Gruley, M.D. Journal of Bone and Joint Surgery, October, 1930.

Unilateral dislocation of the atlas upon the axis is a frequent occurrence, but double rotary dislocation is rare. The condition is usually caused by extreme rotation of the head while the patient is relaxed or in surgical anesthesia. They may also be caused by falls or blows upon the head. In the unilateral type one side of the atlas is dislocated anteriorly, the other side remains intact. In the double rotary type one side is displaced anteriorly and the other side posteriorly.

The author presents an unusual case of the double type.

The patient was a boy of five, injured by truck accident. When seen his head was rotated 90 degrees on his body and he looked straight across the left shoulder. Was able to move his head slightly, suffered pain only when moving head. The x-ray examination showed 90 degrees rotation but no fracture of the odontoid process, which is common in these dislocations. As the medulla extends beyond the dislocation and is liable to injury the parents were told of the gravity of the situation. The boy was anesthetized and traction was exerted upon the jaw while an assistant pulled against the shoulders for counter-extension, then the face was rotated to the front and the operator felt the atlas slip back into place. Patient could turn his head normally after he awakened. He was kept in bed two weeks with head between sand bags.

PEDIATRICS

By John M. Lee, M.D.

Doctors Building, Nashville

Rapidity of Immunization with Diphtheria Toxoid. M. Cooperstock, M. D., and G. F. Weinfeld, M.D. Amer. Jour. Dis. Children. November, 1930.

Evidence indicating that diphtheria toxoid (Ramon) has a high immunizing value continues to accumulate. This study was made to determine the rapidity with which immunity is obtained following two injections of 1 cc. of toxoid, three weeks apart. One group was given the Schick test three weeks after injections and 58% were immune. In another group retests were made nine weeks after toxoid injections and 79.5% gave negative Schick tests. A third group was tested from sixteen to twenty-two weeks after the second toxoid injection and negative Schick reactions obtained in 92.3%.

Different workers employing different dosage and varying intervals between injections have obtained varying percentages of immunity. The authors favor a dosage of 1 cc., repeated in three weeks. Injections spaced too closely may bring about the so-called "negative phase" in circulating antitoxin and a delay in the production of immunity.

It is pointed out that persons from a rural community show a higher per cent of positive Schick tests than a similar group of urban residents. Also it has been demonstrated that any group with a high rate of susceptibility is difficult to immunize, and the effectiveness of any antigenic agent can be proved by its ability to immunize such a group. The authors state that a large number of the persons tested in this study were adults from rural districts, and suggest that a more rapid immunity might have been obtained had an urban group been studied.

SURGERY — GENERAL AND ABDOMINAL

By John L. Dies, M.D.

1213 Exchange Building, Memphis

The Development of Cancer in Burn Scars. Norman Treves, New York; George T. Pack, New York. Surgery, Gynecology and Obstetrics, Vol. LI, December, 1930, No. 6. Pg. 749-782.

A series of cases of carcinoma developing in the scars of burns is reported. These tumors are divided in two groups, the acute wound cancers and the chronic scar cancers.

The potentiality of a scar to undergo malignant degeneration and the histological variety of epithelioma resulting are due to the extent of the surface area involved and to the depth of the burn. The nature of the exciting agent its capacity for heat absorption and degree of temperature together with the duration of contact are factors which influence such a change.

The age of the scar is more important than the age of the individual. The chronic scar cancers, in this study, occur at the average age of 53.5 years, while the acute wound cancers develop at 56 years of age. Cancer of burn scars may occur in younger persons if the cicatrix exists from infancy of childhood.

Acute wound cancers develop within a year of the date of injury, occurring in instances of quite superficial burns with little surface involvement. They are more common in older people with atrophic, kerotic skin.

Basal cell cancers developing in burn scars usually occur when the burn is superficial, sparing the hair follicles and sweat glands. This type is noted following thermal injury by hot solids.

Avascular scar tissue results from the slow healing of a burn. Infection in ungrafted burns retards epithelization. Scars slow to heal are more liable to carcinomatous degeneration.

Areas which heal rapidly have pliable soft surfaces.

Burns may be classified according to their end results; those that heal with scar formation and those that are repaired without marked scarring. The surgeon, from clinical experience, will recognize which type of burn is to have special treatment in an attempt to minimize the scar tissue. The burn which would result in excess scar formation is of significant import in the study and prevention of scar cancer. The tight, dense scar is the one most liable to carcinomatous degeneration, but acute wound cancers, of basal cell type, often originate on wounds of a superficial character. In the contractures following thermal injury and the tension which results, ulceration is easily provoked which may lead to carcinomatous change. Ulceration occurs because newly formed scar tissue is poorly nourished. The fibrosis about blood vessels in the cicatrix prevents an adequate supply of blood to the scar, favoring ischaemic ulceration.

The history of scar carcinoma conforms with the generally accepted theory of the histogenesis of epitheliomata. Fibrosis causes poor nutrition facilitates ulceration. Trauma easily destroys the delicate epithelium. Healing after each insult is more difficult. The regenerated integument is progressively inferior and persistent stimulation to the marginal epithelium for repeated growth and repair with constant frustration may lead to a loss of tissue restraint and eventually cancer.

The epithelium of adherent scars is abraded by relatively slight injuries while normal skin is not so readily injured by trauma, because of its elasticity and ability to move over subcutaneous tissues. Likewise the trauma in a cicatrix, due to motion of a joint, may be a source of repeated injuries to the scar, a competent producing factor of cancer in such cases. Presistant pruritus may lead to dangerous complications because the patient scratches the area, rubbing off flakes of keratinized epithelium which leaves small raw spots. These may coalesce to form an ulcer, especially when infected. Prolonged suppuration may be a frequent causative antecedent of cancer in these locations.

Cancer in burn scars occurs in those parts of the head and extremities most subject to burns. Many of the carcinomata personally observed have developed in regions where ordinarily epitheliomata are infrequent, arm, elbow, groin and popliteal space.

When carcinomatous degeneration begins it is often confined to the margins of the ulcer. There are two forms of this cancer: (1) the flat indurated, infiltrating, ulcerating carcinomata, and (2) the papillary carcinoma. The latter form is infrequent. The former is invasive late in its course. Histologically and clinically, the ulcerative variety is a more malignant cancer. This form metastasizes earlier. All the epidermoid carcinomata in this study were squamous cancers, grades 1 and 2, well differentiated and radioresistant. Because they are adult, differentiated neoplasms arising in areas of scar tissue, growth is slow and dissemination is late. Once the cancer is beyond the cicatrix it may invade or metastasize more readily. Visceral metastases are rare; only one of our cases developed secondary deposits which occurred in the lungs.

As elsewhere in the body, the early recognition of scar cancer is imperative if a satisfactory result is to be obtained. Late diagnoses may require mutilating operations in an attempt to effect a cure. Scar cancers on the face and head are more serious than similar neoplasms arising on the extremities. Radical surgery in the former group is precluded, while an amputation of a limb may effect a cure as a last resort in the latter group. The presence of invaded lymph nodes is of serious prognostic import, much more so than the duration of the disease. The prognosis is modified by the location of the tumor, its fixity, its proximity to blood vessels, the degree of infection and the radiosensitivity. The age of the patient may influence the end result, for old people will not readily tolerate radical surgical procedures, while the disease in younger individuals has greater growth propensities. The ultimate prognosis for acute wound cancers is better than for chronic scar cancers, although the conditions attending the former type are more favorable for rapid growth and dissemination. This more favorable outcome may be attributed to the superficial character of the scars, the small size of the lesions, and the predominance of basal cell types, which are much more amenable to radiation therapy.

A plea is made for adequate, satisfactory, and aggressive treatment of burns. Here is a definite field for cancer prophylaxis. Burns should be prevented, local treatment should be instituted to prevent infection of the burned area, once the damage is done. The burned scar should be properly cared for and measures adopted which will promote rapid epithelization. Early skin grafting should be employed where repair is slow or in cases in which the surgeon feels an excess of scar tissue will develop. Lastly, a radical excision of the scar should be performed when persistent ulceration is present or degenerative changes appear.

In burns of a severe degree skin grafting is the most efficient preventive measure. When skin grafting is delayed, unhealthy granulations with a scar tissue base develop. It is important to employ skin grafting in the burns sustained by children, not only for cosmetic and functional results but because the exuberant scars which form in young individuals are more prone to degenerate later in life. The types of skin grafts to be used will depend upon the severity, extent, and location of the burn.

Scars which have formed, especially large ones, are menaces. They must be safeguarded against irritation and trauma. If dry they should be occasionally treated with a bland oil or ointment to prevent excessive keratin accumulation.

Radiation therapy, especially the use of heavily filtered radium at a distance, should be the first form of treatment for these epitheliomata. The small lesions, and particularly the basal cell lesions, will usually disappear after adequate irradiation. Radiation failures may be due to the type of squamous cancer occurring in burn scars which is a highly differentiated adult neoplasm. These epitheliomata have inadequate blood supplies and the tissue reaction and process of repair are weak or absent in the scar bed. Infection which is present interferes with successful irradiation. Four latent scar cancers and four acute wound cancers were cured by irradiation alone, and in two other instances this form of therapy was adequated after surgery had failed. If radium is not available, a wide local excision or destruction with the actual cautery may suffice. Curettage is inadvisable.

If the lesions are radioresistant, surgical intervention becomes necessary and the magnitude of the procedure will depend upon the location of the lesion. Local excision of well developed scar cancer is unsuccessful and dangerous. The failure in such instances is due to the fact that few of the cancers received pre-operative irradiation.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,
and F. K. Garvey, M.D.
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Urinary Calculi in Infancy and Childhood. M. F. Campbell, J. Am. M. Ass., 1930, xciv, 1753. (S. G. & O. Vol. LI, Nov. 1930, 416, Louis Neuwelt, M.D.).

In reviewing 30 cases of urinary calculi in children the author states that failure to subject children with chronic pyuria to a complete urological examination accounts for the rarity with which, in the past, urinary stones were discovered in early life.

Seventeen of the 30 cases reviewed were found at autopsy on 2,420 infants and children. Stones of less than 3mm. were disregarded. Of the 13 cases in which the stones were found during life, they were removed in 11. In one case operation was refused, and in another nephrectomy was done for pyonephroses.

Urinary calculi are generally attributed to colloidal precipitation about a nidus of bacteria or cellular debris. The small uric acid concretions commonly found in the renal pelves of the newborn and very young are of little clinical importance as they are usually passed before many months of life. However, some of them may become nuclei for larger stones. The stones of later childhood are usually composed of urates or calcium phosphate. From 10 to 15 per cent are uric acid stones. In the series of cases reviewed by the author uric acid and phosphatic stones were found with equal frequency. The number of stones in the individual case ranged from one to twenty.

Urinary calculi may be formed at any age, even in fetuses of from six to eight months. In the cases reviewed by the author in which the stones were found during life the average age was eight years, whereas in those in which they were discovered at autopsy it was nine years and eight months. According to the literature, urinary calculi occur more frequently in boys than in girls, but in the author's cases they were found with equal frequency in boys and girls. In 17 they were on the right side and in 7 on the left. In six cases they were present on both sides. Only five stones were found in the bladder.

The greatest obstacle to the passage of stones is the vesical outlet, especially in the male. In none of the cases seen by the author was a stone present in the ureter, but there are records of cases in which renal, ureteral vesical, and urethral stones were found simultaneously in children.

The pahtlogical changes in the urinary tract that may be associated with urinary calculi include pyelonephritis, hydronephrosis, pyonephroses, ureterectasis with or without stricture, and dilatation, trabeculation, and diverticulitis of the bladder. Definite mural obstruction is usually demonstrable along the urinary tract. In three of the cases reviewed by the author in which the stone was found during life, ureteral blockage from atresia was present; in one case, a ureterocele with a pinhole os was found; and in one case there was congenital fibrosis of the outlet of the bladder.

The symptoms of urinary calculi in children are predominantly those of infection, but pain may be the first indication of acute illness. The most common symptoms are pyuria, urinary frequency, and dysuria with localized, radiating, or indistinct pain. Haematuria may be absent. In the cases reviewed, the duration of the symptoms ranged from twenty-six hours to five years. Because of persistent pyuria, calculus disease is usually diagnosed a schronic pyelitis. Often the chief symptoms are a loss of weight, anorexia, nausea, vomiting, intestinal disturbances, and pallor, a syndrome suggesting a gastro-intestinal condition. Fever is rarely present unless urinary obstruction exists. When infection accompanies complete or nearly complete urinary obstruction, the temperature may be very high and associated with marked toxaemia and prostration.

The diagnosis of urinary stone is often suggested by the symptoms and physical observations and confirmed by urological examination. A hydronephrotic or pyonephrotic mass due to stone obstruction may be felt, a low ureteral or vesical stone may be palpated rectally, or urethral examination may disclose a stone. Laboratory examinations indicate the nature of the bacterial invasion, the degree of the pyuria, the retention of nitrogen in the blood, and the function of the kidneys. In some cases the stone may be revealed by roentgenography, but in the very young most stone are composed of uric acid and hence are not radiopaque. Cystoscopic examination is also necessary. In the cases of girls over five years and boys over eight years of age it should be done without anaesthesia. For the ureteral stones a wax bulb catheter should be used. Ureteral catheterization is indicated for the collection of separate urine specimens to determine the function of each kidney. Pyelography should be done on the involved side, without anaesthesia.

The treatment is usually surgical, but occasionally ureteral stones will pass after ureteral dilatation. About 90 per cent of renal stones pass to the bladder and most of these eventually pass the meatus. Nephrectomy is indicated only when the kidney is totally destroyed or when removal of the stone by nephrotomy would cause renal destruction. Pyelotomy is often possible. Impacted ureteral calculi are removed easily by ureterotomy. Small, soft bladder stones may be crushed, but large or hard stones in the bladder require cystotomy. Soft urethral stones have been crushed within the urethra, but are removed with more certainty and less risk by urethrotomy.

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WOUNDS OF THE SCALP AND FACE*

B. S. RHEA, M.D., Lebanon

PERHAPS a better title for this paper would be selecting the proper suture material for wounds of the scalp and face. The subject I am presenting may seem trivial and primary to surgeons who are accustomed to dealing in major things, but I dare say if one of you should receive a wound of the face it would become a matter of grave concern not to the surgeon but to you. The appearance of a scar on the scalp, abdomen or leg may not matter, but even though your face is not your fortune, you would go to any amount of trouble or expense to get the least possible scar left after an injury. Our patients have confidence in our ability to do this for them, therefore, we should do our best to leave them looking their best.

A few weeks ago a man came to me who had been hurt the day before in an automobile wreck, to have his dressings changed. The wounds were of the forehead and upper eyelid. These had been sutured with No. 2 chromic cat gut. I continued to dress the wounds until healing had taken place, which it did without delay—but very ugly scars were left due to the fact that the wrong suture material was used. My selection of a subject to present to you was occasioned by the above experience.

We are being called upon to treat more wounds of the scalp and face than ever before on account of the many automobile wrecks and accidents incident to increased traffic. Railroad surgeons see more because of the frequent grade crossing accidents. Most of these wounds are made by broken glass and are not as a rule very extensive or lacerated. I will not speak of the very badly mangled or complicated wounds endangering life, in which the surgeon is fortunate in obtaining any reasonable results, but of the lesser ones we are called upon almost daily to treat. Those in which the very best cosmetic results should be striven for. An ugly scar on the face calls for very much more damages from a Railroad Company than an insignificant line. Hence it is up to us as railroad surgeons to use the greatest care in treating these wounds and in choosing the proper suture materials for the individual case.

We were taught that scalp wounds are dangerous, very liable to suppuration and extensive tissue destruction and septicemia. This has not proven so with me. It goes without saying that the utmost care must be taken in preparing the wound for closing. Personally I have never seen the need of extensive shaving of the scalp, sacrificing a great deal of the hair, especially in women. Shave just as little as is necessary for easy working, enough that your needle does not go through the hairs. With a very sharp scissor, and of course, yours always are—you can trim the hair close enough, and in my opinion is better than shaving. I know this is open to criticism.

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*Read before the Railway Surgical Section of the Tennessee State Medical Association, Centennial Meeting, Nashville, April 8, 9, 10, 1930.

A wound is not prepared for suturing until all hemorrhage has been checked unless you are sure your suture pressure will check the same, and all ragged devitalized tissues trimmed away. The wound being prepared, suture according to indication. The periosteum should be sutured with No. 1 cat gut, plain. The skin with the same; if, however, you have reason to believe you will have an infected wound, silk worm gut or silk thread should be used.

I have used skin clips on the scalp but do not like them. The hemorrhage is not controlled and approximation is not deep enough. In scalp wounds you need a deep bite for deep approximation, on account of the thickness of the skin.

Let me insist too much care cannot be taken in preparing and suturing wounds of the face. We must strive to leave as little scar as possible. Many a pretty line of approximation has been spoiled by numerous large needle puncture scars, resembling a thousand-leg tattooed on the face. This can be obviated by care. In some areas of the face we can use the skin clips. Taking a lesson from the goiter surgeon—the clips can be used to advantage in nervous women and children. The novelty appeals to them and if they think they are not to be stuck with a needle their nervousness is allayed to some extent.

Someone described in the Journal of the American Medical Association recently a method of using horse hair, which we have used with good results. A small caliber hypodermic needle is used running superficially through both sides of the wound. This is threaded with the horse hair, the needle removed and the sutures tied. A number of needles can be inserted the length of the wound, then threaded and removed one by one and sutures tied. In suturing wounds of the face where tension is not great, the smaller the needle and the smaller the suture material the better. Horse hair or No. 0 cat gut plain is to be preferred. I try to keep on hand a supply of circumcision needles and cat gut which I find admirable for the purpose when cat gut is indicated or preferred. I believe better approximation is secured and a prettier scar left if interrupted sutures are used. In some instances the subcutaneous stitch comes in well if you are an adept at this method. I do not like strips of Z. O. adhesive but am sometimes forced to use them. In wounds of the eyelids and ears take time to get good approximation; here horse hair is best. In wounds of the lips be sure the vermillion border is in line. Here cat gut is best for the skin, black silk for the mucous membrane.

In applying dressings to wounds of the face make them as light as possible, and in some instances use no dressing at all. The serum of the blood soon supplies a protective dressing. Do not forget in the majority of these cases the Tetanus-Anti-toxin should be given.

HISTORY OF REFRACTIONS AND REFRACTING LENSES*

STEWART LAWWILL, M.D., Chattanooga

NOBODY knows when medicine began, nor when history began, nor when the tribe of human beings had its origin. It began, however, somewhere, some time. Like all things else, it had its beginning many, many years before its history ever peeped within the covers of a book. From our earliest accounts of the oldest known civilization, cutting and polishing of precious stones was highly developed. The seals of Babylon, the breastplate of the Hebrew high priest, and the signet rings of Rome are among the most numerous of the relics that tell the story of ancient art and history. It is hard to believe that these perfectly cut stones could have been done without the aid of some means of magnifying instruments. A gem cutter would necessarily need some form of magnifying glass to assist him in doing the fine work which was necessary in making the angles and facets of these stones as accurate as they have been found to be. In 1847 Sir Austin Layard found in the ruins of Nineveh a convex lens of about 10-inch focal length made from rock crystal. It is thought that many similar lenses were used in ancient Babylon and Nineveh as much as five thousand years ago.

Our earliest written knowledge of ophthalmology dates back to this same time of ancient Babylon, and it is very interesting to know what was first written about our art. Strange to say, absolutely the first written words on the subject of ophthalmology related to ophthalmic malpractice. "If a physician open an abscess in the eye of a man with a bronze lancet and save the man's eye, he shall receive ten shekels of silver." "If he be a freeman, he shall receive five shekels." "If a physician open an abscess in the eye of a man with a bronze lancet and destroy the man's eye, they shall cut off his fingers." These are found in the pages of a law book, "The Code of Hammurabi", which dates back to 2250 B. C. The ancient treatment of diseases of the eye written at this time and later is certainly very interesting, and some of the ancient's "sure cures" for dimness of sight and other troubles are equal to some of the quackery of the present day. For instance, a favorite prescription for corneal opacities, cataracts, etc., was "honey mixed with ——— ———." Another, for strabismus, was "the brain of a tortoise mixed with Oriental spices," "milk from the mother of a male child", etc.

Ophthalmic history continues through the ages mixed with magic, with theurgy, and with every sort and kind of superstition. Thus, to open a boil, certain words of magic had to be recited, else blood poisoning, or worse, would follow. Such magic is seen in the "Charms and Incantations of the Priests"; we find it in Egypt and even in the land of the logical thinking—Greece. Here medicine is largely separated from the old time superstition for the first time by the "Father of Scientific Medicine", Hippocrates, whose way has been prepared for by the Esclapiae and by Greek philosophy. This history is added to by Aristotle and next occurs in the pages of the scientist, Celsus. Celsus' famous "De Medicine" was written A. D. 29—the year of the Crucifixion. Celsus' work, although he himself was a Roman, is undoubtedly Greek in character. There was undoubtedly a lot known and written about our art in the school at Alexandria, but unfortunately, it was lost when this wonderful library was destroyed at the time Alexandria was sacked and burned by the Arabs. At the time Alexandria was captured the Mohammedan general, Amrou, turning to the Caliph Omar, inquired what should be done with all of these books. There were something over four thousand volumes. Omar replied, "If these writings of the Greeks agree with the Koran, they are useless and need not be preserved; if they disagree, they are pernicious and ought to be destroyed." Thus, over four thousand volumes of important literature that bridged the gap between the ancient and modern era were destroyed, and it is said that the manuscripts were so numerous that they lasted for more than six months, used as they were, for fire wood to heat water for their baths. It may be that the Arabs did not bathe often. It is possible that these books contained data on lenses.

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*Read before the Eye, Ear, Nose and Throat Section of the Tennessee State Medical Association, Centennial Meeting, Nashville, April 8, 9, 10, 1930.

After Babylon, the next history of refracting lenses is by Aristophnes, 424 B. C., who mentioned the use of the burning glass.

Next Seneca, the first century A. D., the teacher of Nero, stated that magnifying lenses were used by engravers, and Pliny described them as "polished spheres of glass or hollow spheres filled with water". Pliny, as you may remember, was killed 79 A. D. by the eruption of Mt. Vesuvius.

With the division and decline of the Roman Empire came the rise of the nations of Western Europe. While the gem-shaping and engraving of Rome lost much of its fineness, the art was carried to Spain, France, Belgium, England, and Holland. Meanwhile, another vocation began requiring good sight and magnified images, the production and illumination of manuscripts in the monasteries and growing universities of Western Europe. Magnifying lenses undoubtedly were used among philosophers, mathematicians and astronomers.

The subject of glasses as aids to vision is a matter of conjecture and tradition with an admixture of superstition previous to the middle ages. A Chinese emperor is said to have used lenses to observe the stars in 2283 B. C. Early lenses were made of rock crystal, quartz, topaz, and amethyst. Tortoise shell frames devoid of lenses were found among the relics of the early Chinese. However, frames do not necessarily imply lenses, for in China, even in modern times, a frame devoid of lenses is a badge of superior social status and learning. Among the Chinese an interesting etiquette has grown out of this symbolism: an inferior must remove his glasses in the presence of a superior. This custom survived in Germany until a very recent day. There is no direct evidence, only conjecture, that the Hebrews, Greeks, and Romans had any knowledge of glasses. There is the well-known story of Nero, very myopic, viewing the gladiatorial games through a concave emerald. This is disputed (some claiming it to be a concave mirror). We are tempted to assume that the exquisite work of the ancients in gold and precious stones could not have been accomplished without the aid of some magnifying lens.

Whatever be the theories, all unproven, of the origin of glasses, we have definite historical data for the statement that they were known in China and in Europe in the thirteenth century. During the Mongolian dynasty, 1260 to 1367, old people used lenses which they called "muddy cloud" to distinguish small print. At the time when glasses came into use in China, the same invention began to attract notice in Europe. In the thirteenth century A. D., following the inroad of the Tartars into Europe, the Pope sent missionaries to China to learn the wisdom of the East. One of these missionaries later visited Roger Bacon in Paris. The name of Roger Bacon, the English monk philosopher, looms large in matters of scientific concern at this period. It is certain that he knew of glasses and understood something of optics, but it is not certain that his knowledge was original. He is said to be the "re-discoverer of eye glasses". So great was the opposition of the church to any scientific invention that no one dared lay claim to the invention of glasses. Salvino de Armati, of Florence, who is supposed to have invented spectacles, because of the inquisition of the church, reserved the announcing of his discovery until after his death when he had it engraved on his tombstone. Armati's relatives or friends, caused to be engraved on his tomb (a modern reproduction of which is now in the Church of Santa Maria Maggiore, at Florence, Italy), these words: "Here rests Salvino Armato, of the Armati of Florence, the Inventor of Eyeglasses. God pardon him his sin. In the year of the Lord 1317." Some of our good patients might similarly epitomize some of us, substituting the word "fitter" for "inventor". Roger Bacon, for re-inventing spectacles, was convicted of "White Magic and the Black Arts", and was sent to prison by the Franciscan order in Paris for ten years. Later he was imprisoned again until 1292. He died in 1294 soon after being released. "He first mentioned in his writing the employment of lenses as an aid to sight." It was another fifty years before spectacles and lenses were in general use. It was 200 years later before concave lenses are known to be used. To our own Ben Franklin is due the credit for inventing bifocals which came 450 years after Roger Bacon. Although individual monks used glasses, the church authorities at first regarded these man-made devices as "impertinent efforts to defeat the divine purpose of inflicting diseases upon the aged".

The oldest pair of glasses in preservation is in the Nuremburg Museum. They were found in the latter part of the fifteenth century. These are of the primitive type of round-lensed eyeglasses with a solid bow joining the lenses. They are made of leather, partly of natural color and partly black. The frames are larger and thicker and are, therefore, thought to be older than the interesting glasses of Willbrand Perkhimer, 1470 to 1530, also in the Nuremburg Museum. When Perkhimer's house was torn down in 1867 and removed to Wartburg, where it remains as a memorial, an ancient pair of glasses was found in a crevice in the wall. These were like the common type seen in the pictures and tapestries of the middle ages.

Most instructive and interesting are the anachronisms in the art of this time. Men of learning and dignity are portrayed with glasses in their hands or before their eyes. These medieval artists would honor their historical characters by furnishing them with glasses. Even as far back as the Garden of Eden do we find these aids to vision as shown in the Spanish tapestry called the "Creation of Eve", in which an aged priest sits reading with eyeglasses on his nose. The picture called "The Circumcision of Christ" contains a pair of glasses worn by the high priest. "The Death of the Virgin" presents another such anachronism: an apostle is wearing nose glasses.

The earliest known lenses seem to have been intended exclusively for the relief of presbyopia, the strongest lenses being plus 300 spheres. They were plano-convex or weakly concave on one side. It is probable that they were first used as the modern hand glass, held close to the object viewed, and only gradually were methods devised to support the glasses before the eye. These primitive devices were essentially eyeglasses and not spectacles.

The earliest lenses were made of rock crystal, topaz, emerald; in fact, any fairly transparent stone. It is likely that grosser hyperopic defects soon received relief after the first era of the use of lenses to correct presbyopia alone. Not until the early sixteenth century did concave lenses for the correction of myopia come into use. The earliest picture showing them is the portrait of Pope Leo X, by Raphael, 1517, in the Plazzo Pitti in Florence. The concavity of the lenses is well shown in the reflex. Cataract lenses are mentioned in 1623 by Daca de Valdes.

In France the clergy were the first makers of glasses. Later came the era of Guilds which controlled the industry along with many other industries. As early as 1465 the Spectacle Maker's Guild took part in a review of merchants and craftsmen before the French king. This organization survived until abolished by the French government in 1785. Mention is made of the Spectacle Makers' Guild in England in 1563 and several charters were granted to opticians by Charles I and Charles II. Following the abolishment of the Guilds, glasses peddlers traveled through the land selling their imperfect wares to those who required glasses allowing them to select convex or concave for the grosser defects of presbyopia, hyperobia, and myopia.

The evolution from the very first crude pinch nose eye-glasses to spectacles took some years. It is interesting to read the advertisement of the optician Thomin, of Paris, in 1746, who advertised glasses "which allow free breathing". In the early nineteenth century a great advance was made in the application of lenses when the English scientist, Thomas Young, demonstrated the condition of astigmatism, 1801. Sir George Airy was the first individual to receive the benefit of the correction of his astigmatism which he worked out himself, and for which the optician Fuller, of Ipswich, England, furnished glasses in 1827. The optical firm of Macallester, of Philadelphia, ground cylindrical lenses in 1829, and it is believed that sphero-cylinders were first ground in America in 1829, by the optician, Zentmayer, of Philadelphia, who had the distinction of being the first in this country to limit his optical business to the filling of physicians' prescriptions for glasses.

From the time of Roger Bacon to the latter half of the nineteenth century the evolution of glasses was slow, consistent with the civilization of this period. There was little travel, little reading, little education, and life largely rural, required little prolonged use of the eyes at close range. Therefore, the world in general endured what eye defects nature had inflicted and presbyopia was accepted along with gray hairs and toothlessness.

It was not until after Donder's excellent work, "The Refraction and Accommodation of the Eye", in 1864, that the medical profession realized what a field of usefulness they had been neglecting by their former ignorance. With the aid of the ophthalmoscope of Hemholz, 1851, and cycloplegic drugs, accurate refraction came to be recognized as one of the veritable boons to mankind, relieving suffering and prolonging the years of usefulness far past the fifth decade.

The origin and early use of prismatic lenses is unknown. In 1844 Charles Chevalier of Paris recommended glasses for correction of squint. It is possible that he meant prisms. In 1865 Dyer called attention to the value of prisms for gymnastics of weak ocular muscles. For the past fifty years prisms have been widely used.

Various theories of accommodation were advanced at different times through the ages, but it remained for Thomas Young, of London, in 1799, to clarify these heretofore very hazy explanations. Young, however, adopted the view that the lens itself was muscular structure and the changes in shape which the lens must undergo in the course of an adjustment to light which comes from nearer or farther distances could only be produced by contractions and relaxations in the very substance of the lens. This same Thomas Young wrote something on perimetry. Mariotte, a Frenchman, had already discovered the normal blind spot in 1666. The first description of field contractions was furnished by Joseph Beer, of Vienna, in 1817. The first perimeter was made by Richard Foestner of Breslau, Germany, in 1868. Undoubtedly, the greatest eye instrument ever invented was the ophthalmoscope by Hemholz in 1851. In 1801 Midriatics began to be employed in ophthalmology. The ancients knew of them but they were used chiefly by the women to make them beautiful. Cocaine and homatropin did not come into use until 1879. The first to measure the minimum visual angle was Robert Hooke, and he describes it very concisely: "If a graduated ruler is held at such a distance from the eye that the interval between any given division mark and the next appear under a smaller angle than one minute, then the sharpest eye can no longer discriminate the two marks one from the other." On this great discovery is based a large proportion of refraction of today. The ophthalmometer, like the ophthalmoscope, is the invention of von Hemholz, 1854. It was not until 1880, Javal and Schiotz made improvements that made it practical for every day office use. In 1889 it was still further improved. Although many alterations and different models of the instrument have been made since 1889, none have surpassed the early model in accuracy.

In 1665 Christian Huygens, of Holland, the celebrated astronomer-mathematician, invented the first method of grinding lenses satisfactorily. The first to publish a complete collection of test types was Edward Jaeger, of Vienna, in 1854. Schnellen, of Utrecht, finally combined the various sizes of letters, each block of letters at the normal distance subtending an angle of exactly one minute. The trial case was invented by a specialist named From Muller in 1843. "Skiascopy" was first introduced by Sir William Bowman, of London, for the detection of irregular astigmatism in 1859. Cuignet of Lille, France, in 1875 suggested the use of the ophthalmoscope for the measurement of every form of ametropia and called the procedure "Keratoscopy". Parent later called it "Retinoscopy", while Priestly Smith in 1884 named it "Shadow Test". The indirect method of ophthalmoscopy was invented in 1852 by Ruete. The two bibles of refraction appeared soon after the invention of the ophthalmoscope—Donder's "The Refraction and Accommodation of the Eye", in 1864, and Hemholz's "Textbook of Physiological Optics", in 1867.

History of refraction and refracting lenses is interesting to the extreme, interwoven so closely as it is with the history of ophthalmology, theurgy, medicine, and surgery. Its study is truly the study of the whole of medicine and even more, the study of history itself. It is interesting to note that all the important advances have been made within the life time of this Tennessee State Medical Association. It is indeed a fitting time to review such a history. What a world of material and discoveries have been added to our profession since our forebears organized this State Medical Association 100 years ago! The advances in general medicine, surgery and bacteriology have come along with the same pace as that of our own specialty. The germ theory of disease dates from the discovery in 1836 of the yeast plant by Latour. These germs were first shown to the human eye by Louis Pasteur. The itch mite was discovered in 1834; the bacillus anthrax in 1850; the gonococcus by Neisser in 1879; the tubercle bacillus by Koch in 1882; the pneumocous in 1883; Klebs-Loffler in 1884; the spiro-chaeta Pallida in 1905. The antiseptic treatment of wounds was first introduced by Joseph Lister in 1868. The first use of ether for general anesthesia was in 1846 at the Massachusetts General by Dr. John Collins Warren. Ephraim McDowell had already performed his first ovariotomy in 1809.

We should indeed be glad that we live in the age when we have all these great discoveries at our elbow to make our practice easy and scientific, and that we did not live in the age when glasses were such a rarity and ophthalmology equally as unknown.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS
A REPORT OF TEN CASES*

BARNEY BROOKS, M.D., Nashville

IN THE TRANSACTIONS of the New Haven County Medical Society of the year 1788, is found a report by Dr. Hezekiah Beardsley of a case of *scirrhus of the pylorus* of an infant. Every feature of the disease as we now know it is clearly noted. "The constant puking, the leanness, the wizened, old look of the child are well described, and diagnosis was made four months previous to death. The post-mortem examination showed a dilated and hypertrophied stomach and the pylorus was invested with a hard compact substance or scirrhosity which so completely obstructed the passage into the duodenum as to admit with greatest difficulty the finest fluid." We are indebted to Sir William Osler for the discovery of this clear cut description of a disease which, as far as I know, was not recognized again for exactly 100 years. It was in 1888 that Hirschsprung's paper in which he described the pathological changes observed in two instances of congenital hypertrophic pyloric stenosis appeared. It is to Hirschsprung that the credit for the description of this disease is usually assigned.

The succession of events in the development of the treatment of this disease is quite as remarkable as the succession of incidents relative to its clinical recognition and its associated pathological changes. After the appearance of Hirschsprung's paper, it was not long before the possibility of saving the lives of infants affected with congenital hypertrophic pyloric stenosis by operative treatment was recognized. The mortality associated with earlier attempts at operative treatment was discouragingly high. During the earlier period of surgical treatment of congenital hypertrophic pyloric stenosis, at least four operative procedures were in vogue: forcible dilatation of the constricted pylorus; pylorectomy; gastro-duodenostomy; gastro-enterostomy. In this country gastro-enterostomy became the operation of choice.

In 1905 Scudder was able to collect 60 cases of congenital pyloric stenosis operated upon in this country with a mortality of 46 per cent, which at the time was considered very convincing evidence for the value of the surgical treatment of this disease.

In spite of the fact that statistics showed the best results to follow gastro-enterostomy, it was from the attempts at some form of pyloroplasty from which the operation now generally adopted took origin. The Rammstedt procedure which is now, I believe, almost universally adopted, is after all nothing other than the result of successive modifications of the much older Heineke-Mikulicz operation. Fredet, in 1908, described an operation in which a longitudinal incision was made through the pyloric tumor without carrying the incision through the mucous membrane. The longitudinal incision was then closed transversely. In this description Fredet departs from the Heineke-Mikulicz principle only in that he observed that there was no actual contraction of the mucous membrane in congenital hypertrophic pyloric stenosis. The same operative procedure was apparently independently described by Weber in 1910. The Rammstedt procedure, which differs from that of Fredet and Weber only in that no attempt is made to close the longitudinal incision through the pyloric tumor, was described in 1912. The recognition of the fact that it was preferable not to attempt to make a transverse closure of the longitudinal incision was due entirely to the fact that Rammstedt in operating upon a case of congenital pyloric stenosis found that it was impossible to make the sutures hold in the friable tissue of the pyloric tumor. In thus abandoning the attempt to complete the operative procedure described by Fredet and subsequently observing that the patient made an uneventful recovery, the very valuable operative procedure now known as the Rammstedt operation was discovered. Since the introduction of the Rammstedt operation the mortality of the operative treatment of congenital pyloric stenosis has been reduced from approximately 50 per cent to probably less than 1 per cent.

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It is to be emphasized here, however, that this tremendous reduction in the mortality of operative treatment is not to be ascribed wholly or perhaps even in largest part to the simplification of the operation, but in large part to the fact that the disease is now treated by operation before the patients have reached such a stage of emaciation and dehydration that even the spontaneous disappearance of the pyloric obstruction would not save life.

As a basis for the further discussion of the details of the diagnosis and treatment of congenital pyloric stenosis, I will present in tabular form the cases treated in the Vanderbilt University Hospital during the past three years.

From an examination of this tabular report, although the number of cases is small, it is surprising how well the fundamental principles of diagnosis and treatment of congenital hypertrophic pyloric stenosis are exemplified. Of the ten cases reported, nine were males and one a female. Although the figures usually given are approximately six males to one female, I believe my own experience in this disease has been that this larger percentage of males has been present. (In speaking of my own experience in this disease, I am referring to my experience as surgeon to the Saint Louis Children's Hospital of St. Louis, in which I had opportunity of operating upon a very large series of these cases. The beginning of my experience was in the period in which gastro-enterostomy was accepted as the operation of choice.) In a series of cases summarized in this paper the average age of the infant at the onset of the symptoms was 23 days. I believe it is of very great importance in making a diagnosis to have a history of a normal child for at least the first ten days of life, after which persistent vomiting appears. This is particularly well exemplified in the table by noting the single instance of a child who began vomiting immediately after birth, and who presented some of the symptoms of pyloric stenosis, and at the age of three weeks was found at operation not to have a congenital hypertrophic pyloric stenosis.

Another statement which is frequently found in the literature is that this disease is prone to affect a first born child. It is interesting to note that in the ten cases here presented, half of them were in first born children.

The symptoms of the disease are simply those which would inevitably be associated with inability of the stomach contents to pass into the duodenum. The vomiting is usually relatively mild at the beginning, then becomes very frequent, and ultimately may become less frequently repeated, but each discharge being of a larger amount. This fact is of course due to the increased capacity of the stomach from progressive dilatation.

As regards the signs which are of importance in making a diagnosis, I wish particularly to speak of only two. All instances of congenital pyloric stenosis here reported, and all which I have previously observed, have shown exaggerated visible peristalsis, obviously of the stomach. It is not infrequent to observe gastric peristaltic waves through the thin abdomen of any child in a state of emaciation. It is, however, rare to see the gastric peristaltic wave rise so high on the abdominal wall or persist so long as that which is observed in the presence of pyloric stenosis. It would seem to me, therefore, as if the presence of visible gastric peristalsis was always suggestive of pyloric stenosis. It is, however, not conclusive evidence.

The sign which far outweighs in importance any point in the clinical history or any physical sign, is the ability to palpate in the region of the pylorus a small, firm, hard tumor. I believe this sign to be essential in making a positive diagnosis of congenital pyloric stenosis. I may say that the ability to palpate this tumor must be a sort of a "knack", because I have frequently been able to feel this tumor very clearly myself, and at the same time have not been

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS

Hosp. No.	Race	Sex	Age Onset	Age Operation	Symptoms	Signs	Days Pre-Oper.	Operation	Post-Operative Course	Days Post-Oper.	Age Last Heard From
3835	W.	M.	2 weeks	2 months	First born. Vomiting. Progressive loss of weight.	Weight, 5½ lbs. Emaciated. Dehydrated. Marked visible peristalsis. Palpable tumor.	1 day	Rammstedt. Tumor present. Not gelatinous. Peristalsis passed thru tumor. Local anesthetic.	Uneventful. Vomited once. P. O. weight, 6½ lbs. 7 days P. O.	7 days	----------
3199	C.	M.	4 weeks	7 weeks	Third child. Vomiting. Bowels not moved in 3 days. Passed no urine 24 hours before operation.	Weight, 7 lbs. Visible peristalsis. Palpable tumor. X-ray showed pyloric obstruction.	1 day	Rammstedt. Typical hard friable tumor. Local anesthetic.	Uneventful. Patient vomited after operation for 1 week, but amount continuously decreased.	9 days	13 months, well. 13½ lbs. 2 months after operation.
15223	C.	M.	3 weeks	6 weeks	Fourth child. Vomiting 15 minutes after feeding. Sometimes amount large.	Weight, 6½ lbs. Visible peristalsis. Palpable tumor.	6 hours	Rammstedt. Typical hard friable tumor divided. Local anesthetic.	Uneventful. No vomiting after operation.	4 days	7 months, well, weight 16½ lbs. 16 months, well.
20780	W.	M.	4 weeks	7 weeks	Fourth child. Vomiting. Loss of weight.	Weight, 8¾ lbs. Visible peristalsis. Palpable tumor.	2 days	Rammstedt. Typical hard friable tumor. Local anesthetic supplemented by ether.	Acute otitis media 48 hours P. O. Some vomiting after operation.	6 days	9 weeks, weight 8½ lbs. 13 months, weight 23 lbs.
21734	W.	M.	2 weeks	3 weeks	First child. Vomiting.	Weight, 7¾ lbs. Visible peristalsis. Tumor felt. X-ray showed nothing passed pylorus.	2 days	Rammstedt. Small hard spherical tumor. Duodenum opened. Ether.	Vomited small amount for 5 days P. O. Weight steadily increased.	7 days	7½ weeks, weight 11⅓ lbs. 16 months, weight 24¼ lbs.
23819	W.	M.	Immediately after birth	3 weeks	First child. Persistent vomiting.	Weight, 6 lbs. No tumor. Visible peristalsis. X-ray showed nothing passed pylorus.	1 day	No pyloric tumor. Pylorus contracted. Pyloric muscle divided.	No further vomiting after operation while in hospital.	8 days	8 weeks, weight 6½ lbs. 1 year, well.
33472	W.	M.	3 weeks	9 weeks	First child. Vomiting. First after each feeding. More recently large amount after each second, third, feeding. Birth weight, 7½ lbs.	Weight, 6⅓ lbs. Visible peristalsis. Palpable tumor.	2 days	Rammstedt. Typical hard friable tumor. Local anesthetic.	Vomited decreasing amounts for 2 weeks after operation but continued to gain weight.	16 days	16 days, weight 7¾ lbs. 3 months.
30419	W.	F.	5 weeks	8 weeks	First child. Birth weight, 8½ lbs. First vomiting only occasional. During past few days has vomited all feedings.	Weight, 10¼ lbs. Visible peristalsis. Palpable tumor.	3 days	Rammstedt. Typical hard friable tumor. Duodenum opened. Local anesthetic, plus N_2O_2.	Vomited small amounts only after operation.	28 days	12 weeks, weight 10 lbs. 5 months, weight 14½ lbs.
29290	W.	M.	6 weeks	8 weeks	Seventh child. Birth weight 9½ lbs. Persistent vomiting of all feedings for 2 weeks.	Weight, 9½ lbs. Marked visible peristalsis. Child appears to suffer pain with most exaggerated gastric contractions. Palpable tumor.	1 day	Rammstedt. Unusually long cylindrical tumor.	Developed severe dysentery second P. O. day.	8 days	7 months, well. 8½ months, 21 lbs.
30373	W.	M.	10 days	-------	Fourth child. Birth weight, 8 lbs. Vomiting increasingly severe.	Weight, 7½ lbs. Visible peristalsis. Definite pyloric tumor. X-ray showed no barium passed pylorus.	-------	None. Child began to vomit less and have normal stools; operation was delayed.	Child discharged much improved. Has subsequently been admitted 3 times, each time events first admission have been repeated.	-------	----------

SUMMARY

Cases	10	Average age at operation	45 days
Operations	9	Average duration disease	22 days
Recoveries	9	Sex—Male	9
Average age onset	23 days	Sex—Female	1

First Born 5

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able to demonstrate its presence to any of my assistants. It is an elusive tumor and can be felt only under the most favorable conditions for abdominal palpation. For this reason it is very helpful to be able to feel of the infant's abdomen during a period of complete relaxation. It is unnecessary to remark that in order to feel of an infant's abdomen during a period of complete relaxation, it is necessary to be extremely patient and work rapidly during any short interval in which relaxation is present. The tumor may often be felt by approaching the infant while asleep and finishing the abdominal examination before the child wakes up. A method which I have occasionally found useful is: Give the child a bottle at the same time the examining hand is resting upon the infant's abdomen. During the very brief period in which the child first takes the bottle, the abdomen may be sufficiently relaxed to feel the pyloric tumor. Any one having once felt the tumor characteristic of congenital pyloric stenosis can never fail to recognize it again, even if the fingers touch it for only a fraction of a second.

Since the introduction of the examination of the gastro-intestinal tract by means of the barium meal and the x-ray, this method of examination has been considered of importance in making a diagnosis of congenital hypertrophic pyloric stenosis. I believe this method of examination is of value only when its limitations are clearly appreciated. If barium is put into a stomach and some of it is seen to pass readily into the duodenum, pyloric obstruction is obviously not present. On the other hand, it has been found in a great many instances that the barium failed to pass into the duodenum in instances of infants without congenital hypertrophic pyloric stenosis. These instances were those in which the barium was vomited very soon after being taken, or instances of true pylorospasm. I am inclined to believe, therefore, that x-ray examination with the barium meal may be very good evidence against the existence of a congenital hypertrophic pyloric stenosis, but that it could never be conclusive evidence of its presence.

Besides the operative procedure, the two most important features in the treatment of congenital pyloric stenosis are brought out in the columns of figures which show the period elapsing between the onset of the symptoms and the time of operation, and also the period which was consumed in the pre-operative treatment. In the cases here cited it will be noted that the longest period elapsing between the onset of the symptoms and the time of operation was six weeks. The average time elapsing between the onset of symptoms and the time of operation was three weeks. This is in marked contrast to the statistical studies of fifteen years ago, at which time surgical intervention was undertaken only as a last resort.

The columns of figures showing the time given to pre-operative treatment is equally important. It will be noted that in no instance was congenital hypertrophic pyloric stenosis considered an emergency operation. In all except one case, at least 24 hours were taken for pre-operative treatment. The infant with congenital hypertrophic pyloric stenosis of even relatively few days duration is in a very bad general condition. The complete absence of food has resulted in tremendous emaciation and a marked depletion or complete absence of any carbohydrate reserve. This condition, although serious as regards the risk of operation, is by far less serious than the extreme dehydration which is also present. Fortunately, dehydration is a condition very easily remedied. It is indeed surprising to observe how much the emaciated, wrinkled, dried-up infant with congenital hypertrophic pyloric stenosis will improve after the administration of fluids. The best method for introducing fluids in infants is the injection of physiological salt solution into the peritoneal cavity. Glucose may also be given intraperitoneally or intravenously into the median longitudinal sinus. I believe I prefer giving the glucose intravenously rather than intraperitoneally, although I have never seen any unfavorable results from the irritation of the peritoneum which followed the introduction of 10 per cent glucose solution intraperitoneally. Somehow, however, it is difficult for a surgeon to feel that anything which irritates the peritoneum is harmless. The preoperative treatment of congenital hypertrophic pyloric stenosis is of very great importance in diminishing the mortality after surgical treatment of this disease.

It is therefore evident that the responsibility for saving the infants affected with congenital hypertrophic pyloric stenosis still rests for the most part on the pediatrician. The importance of the technic of the operative procedure is insignificant compared to the importance of the early recognition of the disease and the preparation of the patient for operation.

As regards the operation, any remarks which I would make would be of interest only to the surgeon, and I believe that the simplicity of the Rammstedt operation is so great that any one who could be even remotely considered a surgeon is entirely capable of accomplishing it successfully. It is, therefore, only for the sake of completeness that I emphasize a few points in the technic of the operation.

Usually the Rammstedt operation can be very conveniently completed with only the use of local anesthetic. I believe it is important to use only local anesthetic in instances in which the child is greatly emaciated and dehydrated. In instances, however, in which the disease has been recognized before great emaciation has taken place and dehydration has been compensated for by the introduction of fluids intraperitoneally, the administration of ether is not contraindicated. Also I believe that the surgeon who has not had the "knack" of working through a small incision should use general anesthetic. If the incision is relatively large, the child may strain during the operation sufficiently to make a large portion of the stomach or in some instances, loops of intestine, protrude from the abdomen. This always results in shock. In most instances the pyloric tumor can be easily delivered through an incision so small that after the tumor is delivered the pyloric end of the stomach sufficiently plugs the incision to prevent any further disembowelment.

After the tumor is delivered, the peritoneum overlying the anterior aspect of the tumor is incised longitudinally so as to avoid opening any of the larger vessels. In no instance should one attempt to cut through the tumor with a sharp scalpel. The tissue of the tumor of congenital hypertrophic pyloric stenosis is extremely friable and can always be easily divided with a blunt instrument. I always use the end of the knife handle. By using a blunt instrument there is a wide latitude between the amount of force necessary to divide the tumor and that necessary to make a hole in the mucosa.

The greatest caution needed in performing the Rammstedt operation is that which is directed against perforating the duodenal mucosa. The anatomical arrangement of the pyloric tumor, stomach, and duodenum is such as to make the pyloric region project into the duodenum exactly as the cervix uteri projects into the vagina. There is therefore always a prolongation of the cavity of the duodenum which surrounds the distal end of the pyloric tumor, so that if one attempts to divide all of the pyloric tumor by cutting straight into the tumor, the lumen of the duodenum will be opened. In spite of the fact that it is absolutely contrary to the statement of Sir Berkeley Moynihan, I believe the pyloric tumor should always be divided from left to right, and in dividing the most distal portion of the tumor, it should be done so as to undermine the most proximal portion of the duodenum. In order to accomplish this, it is best to use the handle of the knife as a chisel rather than a knife. Most instances of death after operation, in which the patient was in good condition at the time of operation, have been due to peritonitis from puncture of the duodenal mucosa. It is important to emphasize that the duodenum may be punctured and the puncture not recognized unless one resorts to a very careful test. The technic of this test is the same as that usually employed in locating a puncture in an automobile inner tube. In other words, the incision of the divided tumor is filled with fluid and pressure is made on the duodenum and stomach. If a puncture is present, bubbles will be observed.

If the pyloric tumor is completely divided, I do not believe that it is necessary to separate the mucosa from the overlying tumor by undermining it, nor do I believe that it is necessary to stretch the incision with a clamp as has been recommended by Strauss. The failure of the incision in the tumor to spread so as to produce a marked bulging of the mucosa is usually due to the fact that the tumor is not completely divided in that portion corresponding to the tip of the cervix. I believe it is safer to continue the division of the tumor with the end of the knife handle rather than to resort to breaking the remaining fibers by stretching the incision already made. It will be noted from the table of cases that in two instances in this series the duodenum was opened. One of these operations was performed by me, and my operative note states definitely that the opening in the duodenal mucosa was made by attempting to break the muscle fibers in the most proximal aspect of the duodenum by spreading the incision with a clamp. In the other instance in which the duodenal mucosa was opened the operative note states that the opening in the duodenal mucosa was made after the operation seemed complete because of the fact that the incision in the divided tumor was spread with a clamp. Fortunately, in neither of these instances did any serious consequences follow the accidental opening of the duodenum. In both instances the perforation was recognized, closed, and a piece of omentum transplanted over the operative wound in the stomach. It was, of course, necessary to refrain from feeding the child for a period sufficient to insure firm closure of the perforation.

We have found only a few instances in which it was necessary to ligate any bleeding vessels. It is important, however, to recognize that any active bleeding must be controlled, because an emaciated, dehydrated infant cannot stand what seems to be only a trifling loss of blood.

After operation, no restriction of feeding should ever be employed. The patient should be fed immediately after operation as if it were a normal child who had not been subjected to surgical operation. It is obvious that this statement does not apply to those instances in which, unfortunately, the duodenal mucosa has been opened.

The last case cited is an example of a certain group of cases of congenital hypertrophic pyloric stenosis in which the correct choice of treatment is always a matter of considerable doubt. In fact, congenital hypertrophic pyloric stenosis must occur in different grades of severity from that which produces no recognizable clinical manifestations to that which produces all of the manifestations of complete pyloric obstruction. Formerly operative treatment was reserved as a last resort for those cases in which it became evident that dietary and medicinal treatment could not prove successful. It is true that a certain proportion of instances of congenital pyloric stenosis were apparently successfully treated by non-operative methods. In these instances, however, there was almost universally a long period in which it was a difficult task to maintain the child in even a moderately good state of nutrition. The child continued to be underweight and normal growth did not take place, and the child often died during an attack of one of the infectious diseases of childhood. I remember quite well a very striking example of this which we were permitted to observe in a pair of identical twins, both of which had congenital hypertrophic pyloric stenosis. In one of the twins the condition was such that gastro-enterostomy had to be performed to save life. The pyloric obstruction in the other twin was not complete and the child was carried along on dietary and medicinal treatment. When the twins had reached the age of six years, no one would ever had even the remotest idea that the two children were identical twins. The severer case of congenital hypertrophic pyloric stenosis, which was subjected to operative treatment, had remained continuously well nourished and had attained normal growth. The twin which had not had the disease so severely and which had not been operated upon, remained a "sickly" child and was at least two years behind as regards growth. It is, therefore, my feeling that it is usually best to operate upon all cases of congenital hypertrophic pyloric stenosis in which there is a sufficient amount of obstruction of the pylorus to make a positive diagnosis.

This problem of treatment of a relatively mild case of congenital hypertrophic pyloric stenosis brings up another problem which, although of great importance, is as yet unsolved. I refer to the etiology and pathological changes of this disease. The etiology is absolutely unknown. All agree that the essential anatomical pathological change associated with the disease during infancy is an hypertrophy of the muscle at the pyloric ring. It is, however, apparently not clearly understood what ultimately happens to the pyloric tumor in those instances which survive for several years. The evidence, I think, is in a way conflicting. I am inclined to wonder, however, if this apparent conflict is not after all a suggestion of a possible explanation of the etiology of the disease.

The apparently conflicting facts are as follows: A great many of the earlier cases of congenital pyloric stenosis were observed by the pathologists in children several years of age. This is conclusive proof that the pyloric tumor may exist for years. Another observation which leads to the same conclusion is that of Scudder. During the period in which gastro-enterostomy was the operation of choice for this disease, Scudder studied a series of cases of congenital hypertrophic pyloric stenosis which had had gastro-enterostomies performed for periods of from one to eight years. These individuals were subjected to x-ray examination with the opaque meal. In all instances the entire meal passed through the gastro-enterostomy opening. In no instance was any observed to pass through the pylorus. As is well known to surgeons, the stomach will not empty itself through a gastro-enterostomy unless there is a coexisting pyloric obstruction. This indicates the persistence of the pyloric obstruction for at least a period of several years. In contrast to these facts there has recently been reported a study of some instances of congenital hypertrophic pyloric stenosis which were operated upon by the Rammstedt operation and died of other diseases after periods varying from one day to two years. The healing of the wound of the Rammstedt operation was carefully studied in this series by Wollstein. It was found in all instances that in the healing of the wound there was ultimately perfect approximation of the divided muscle of the pyloric ring. At the same time there was in all instances complete disappearance of any evidence of muscle hypertrophy.

It would seem, therefore, from these facts that the disappearance of the hypertrophy was in some way definitely associated with the actual division of the muscle. This suggests that the etiology of the disease lies in some abnormal physiological condition. This abnormality could hardly be believed to be a simply abnormal physiology of the neuro-muscular mechanism, because hypertrophy of a muscle is indicative of repeated contractions. There is little or no evidence that congenital hypertrophic pyloric stenosis is associated with rhythmic contractions of the pyloric ring. It is, however, possible to think of an abnormal anatomical arrangement of the neuro-muscular mechanism of the pylorus in which there would be repeated contractions of individual muscle fibers, but a complete absence of correlation between these contractions, so that though each individual muscle fiber would be undergoing rhythmic contraction, there would never be at any time a complete relaxation of the pyloric sphincter. In other words, the etiology of the disease may lie in the lack of coordination in the contraction of the individual muscle units. This condition is not unknown in other organs; as, for example, the heart in the well known condition of fibrillation.

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ONE HUNDRED CONSECUTIVE CASES OF BRONCHO-ESOPHAGOSCOPY AND ALLIED CONDITIONS*

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THE HUNDRED consecutive cases of broncho-esophagoscopy, and allied conditions, included in this report cover the work done by Dr. Wilkerson and myself for a period of five years, from 1925 to 1929, inclusive.

Most of these patients were foreign body cases, but some of them were examined for diagnostic purposes, or the treatment for pathological conditions other than foreign bodies.

These patients ranged in age from a few months old up to 60 years and over.

15 patients were under 1 year old.
26 patients were between 1 and 2 years old.
12 patients were between 2 and 3 years old.
7 were between 3 and 4 years old.
2 were between 4 and 5 years old.
13 were between 5 and 10 years old.
7 were between 10 and 20 years old.
18 were over 20 years old.

It will thus be seen that 62, or 62 per cent, of the patients were under 5 years of age; and that 75, or 75 per cent, were under 10 years of age. The second decade of life only showed seven cases, or 7 per cent, and all over 20 years of age showed only eighteen cases, or 18 per cent. The year of life in which a foreign body was found the most was from one to two years old, with twenty-six cases. This shows the predominance in early life, especially in that year when the child first begins to crawl, and to pick up foreign bodies, and put them in its mouth.

There were fifty-two males and forty-eight females.

Of these hundred patients eighty-three gave a more or less definite history of having swallowed a foreign body.

67 foreign bodies found and removed at time of operation;
2 were coughed up later;
3 later passed through stomach and bowels;
1 was removed by gastrostomy;
2 were removed by post-mortem;
8 cases in which a foreign body could not be demonstrated.

Of this one hundred cases ninety-two were examined with the x-ray, or fluoroscope, or both; of these ninety-two the x-ray, or fluoroscopic examination was positive in sixty-three cases, and negative in twenty-nine. The x-ray findings showed the location and position of the foreign body where the foreign body was opaque to the ray; or the obstruction in the esophagus to the passage of barium, either in the form of meal, or better in the form of a capsule. In other cases the x-ray showed the more, or less, collapse of the lung on the side of the obstruction with displacement of the heart in the same direction. Even in the cases of foreign bodies not opaque to the ray the examination with the x-ray and fluoroscope is invaluable.

The foreign bodies were found in and removed from the following locations:

1 from the nose;
11 from the pharynx or larynx;
11 from the trachea;
12 from the right bronchus;
2 from the left bronchus;
35 from the esophagus;
3 from the stomach.

It will thus be seen that thirty-eight, or practically one-half of the foreign bodies recovered, were in the food passages, below the throat.

The time these foreign bodies were retained varied from one hour to two years and eight months; leaving out a few extreme cases where the foreign bodies were retained for months and years, the average time of the rest was between three and four days.

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The anesthetic used in these cases was ether in forty-two; cocaine in nine; and no anesthesia in thirty-six.

Among the foreign bodies were the following:

14 coins, 10 safety pins (8 open, 2 closed), 5 straight pins, 6 grains of corn, 6 beans, 3 bones, 2 watermelon seed, 2 pebbles, 3 pieces of roast beef, 2 peanuts, 2 tacks, 2 metal caps, 2 watch wheels, 2 marbles.

One each of the following: chewing tobacco, chewing gum, cockle-bur, chestnut, thimble, button, peach stem, horse-shoe nail, toy dog, badge, etc.

In nineteen cases there were complications as follows:

4 of sub-glottic edema;
3 of pneumonia;
3 of broncho-pneumonia;
3 of vegetal bronchitis;
2 of exhaustion;
1 of bronchitis;
1 of retro-pharyngeal abscess;
1 of perforation of the esophagus;
1 of difficult extubation.

In some of these cases the complications above mentioned developed before the operation; in others they developed following the operation. In some they developed where the foreign body was not found, and in others where the foreign body was found and removed. My feeling is that there were more inflammations of the trachea and bronchi following the inhalation of vegetable substances than was true of metal objects. This is in harmony with the well known tendency to vegetal bronchitis where the foreign body inhaled belongs to the vegetable kingdom.

There were ninety-one recoveries and nine deaths included in this series. The deaths were due to the following causes:

2 from exhaustion;
2 from vegetal bronchitis;
1 from broncho-pneumonia;
1 from sub-glottic edema;
1 from obstructed tracheotomy tube;
1 from perforation of esophagus by open safety pin;
1 from retro-pharyngeal abscess.

This mortality list is appalling enough. Several of these had developed the complications before they were brought to us, and in others the patient was scoped for diagnostic purposes when they were already in a grave condition.

Among these fatal cases were the following:

1. A seventeen months old child in whose trachea a silver quarter had remained for four months, and who was already in a state of exhaustion.

2. A child seven and one-half months old with a history of increasing dyspnoea for four months, in which a bronchoscopy was done for diagnostic purposes. The child later died; the end being apparently in no way influenced by the bronchoscopy.

3. A child twenty-seven months old giving a history of having swallowed chestnuts. Bronchoscopy failed to show any foreign body, or other obstruction; the child later died of vegetal bronchitis.

4. A child four months old from whose right bronchus a grain of corn was removed without anesthesia. Death followed due to broncho-pneumonia.

5. Another one was a man who gave a history of having swallowed a piece of oyster shell. Esophagoscopy without anesthesia failed to show any foreign body. Patient died later in another city from what was reported to be retro-pharyngeal abscess.

6. A child twenty-six months old from whose esophagus a watch wheel was removed under ether. The patient was hurried home early the next morning during inclement weather, developed pneumonia on the fourth day, and died.

7. A child six and one-half months old with an open safety pin in the esophagus. The pin had perforated the esophagus and the perforation was found post-mortem.

8. Another was a child ten months old from whose right bronchus, with 4 mm. bronchoscope, one-half of a bean was removed without anesthesia. Patient developed sub-glottic edema and vegetal bronchitis. There was no effort whatever on the part of the child to cough and free the air passages of accumulated mucus. The

trachea and bronchi were gradually plugged with mucus and the child died fifty hours later.

9. A child who had had a tracheotomy with tracheotomy tube left in. Nurses changed during the night and the tracheotomy tube became plugged.

I don't feel, therefore, that all of these deaths are legitimate complications of broncho-esophagoscopic work.

The remainder of these patients were scoped for diagnostic purposes, either for suspected pathology in the lower air passages, or pathology in the esophagus; in some of these cases pathology was found, in others not.

In looking over these cases I have come to the following conclusions:

1. The youthfulness of the patients in this series is striking. Fifteen of them were under one year old, and forty-one were under two years of age. This often made bronchoscopy difficult on account of the small size of the larynx in infants, and the inability to introduce through the larynx a tube large enough to operate through. I believe in such cases that a tracheotomy, followed by low bronchoscopy would, in the main, be more successful, both in removing the foreign body and in avoiding the danger of sub-glottic edema.

2. Bronchoscopy on children without an anesthetic has in it much of the ideal, but we got along better when we used ether.

3. Pneumonia as an after complication, when a general anesthetic is used, cannot justly, always be charged against the anesthetic, as in one case in this series was not bronchoscoped, but coughed the fragments of peanuts up, and a day or two later developed pneumonia.

4. Perforation of the esophagus by an open safety pin occurred in one case. The pin was removed post-mortem when the perforation of the esophagus was demonstrated.

5. In one case according to the evidence a silver quarter entered the trachea of a child thirteen months old, remained four months, and was removed post-mortem. The coin must have entered through the larynx and in an antero-posterior position, but was found in a transverse position, which is the position a coin usually occupies in the upper end of the esophagus. That a silver quarter could enter the larynx of a thirteen months old child is theoretically unbelievable, but it was removed post-mortem.

6. Another case of special interest was that of a child two years old with a penny in the trachea. The foreign body had been present for two days and there was difficulty in swallowing. X-ray plates showed the coin with surfaces antero-posterior, just as is usual in the esophagus. It was at first supposed to be in the esophagus; but failing to find it there we looked in the trachea and found it about one inch below the larynx. It was with difficulty rotated so that the edges were antero-posterior and brought out through the larynx.

This is the second case we have had of a coin in the trachea and in each case the coin had, of course, gone in with the flat surfaces directed laterally, as it could not pass through the chink of the larynx otherwise. But, having entered the trachea, it had rotated 90 degrees so that it occupied a position very similar to a position it would have occupied in the esophagus, with the flat surfaces antero-posterior. These cases show that coins of relatively large size may enter the larynx even of a child, and that having entered the trachea will rotate 90 degrees. An x-ray plate, therefore, showing the coin in the middle of the neck with flat surfaces antero-posterior, does not of necessity prove it to be in the esophagus.

7. One child ten months old had been suffering with labored breathing for four weeks and had had a tracheotomy before we saw him. Exploratory bronchoscopy was negative. There was difficult decanulation. This was handled by Dr. F. Manning Brown, of Hopkinsville, Kentucky. He gave the patient bromides for three days followed by a hypodermic of morphine, making him too sleepy to get scared when the tube was removed. He removed the tube and as the patient reacted from the morphine he continued to breathe normally.

8. Of particular interest were two cases. Each of these children had an open safety

pin in the stomach; in each case the pin was removed without anesthesia; without the use of the esophagoscope; without making any wound; without producing any shock to the patient. The method used was as follows: The children were wrapped in an intubation sheet; the entrance to the esophagus was exposed with the Jackson infant size laryngeal speculum; the new safety pin forceps were passed into the esophagus and on into the stomach; the speculum was removed and from hereon the operation was done under the fluoroscope. The pins were manipulated into the correct position with the open end down, and were grasped with safety pin forceps and brought up through the esophagus. No effort was made to close the pin. The time of the first operation was about ten minutes. The time of the second operation was about five minutes. There was no shock following the removal of the pins and the children were no more incapacitated than if a stomach tube had been passed.

DISCUSSION

W. W. WILKERSON, JR., M.D. (Nashville): Mr. Chairman and Gentlemen: I feel very much at home in discussing Dr. Wood's report, for as he has previously stated I assisted or was assisted by Dr. Wood in practically all the cases to which he alluded. There are many complex problems which one must deal with besides the actual removal of the foreign body. As you can readily understand most of these cases are referred to us by general men. If you will stop and consider you can easily realize that it is not only the removal of the foreign body, but also its swallowing that has its drama. Patients and their parents as a rule are a great deal more upset than they would be if the child had intestinal obstruction. This in turn upsets the equilibrium of many general men; hence they rush the patient to the hospital urging us to operate at once. If we followed their dictates or inclinations we would not have proper time to study our cases nor to make preparations for the removal of the object. Of course, there are instances where this work is an emergency and in such cases we act accordingly. You men can be of great assistance to all endoscopists by general education of some of the general practitioners and also the people.

No doubt it is much nicer to remove a foreign body without anesthesia. If we were fortunate enough to have many cases each year, I am sure we would develop enough skill to remove many safely in such a manner. However, with only a few, comparatively speaking, in my opinion, a general anesthesia is much the safer procedure. The patient is relaxed and the human element is vanished. It allows us to work with more expediency and the time of the operation plays no little part in the end result. This is particularly true in dealing with the esophagus as little trauma here produces great shock. I wish to touch, hurriedly, on the fact that thoroughly removing all mucous and pus from the region of the operative wound is a most excellent procedure and should be done at all times. This will also decrease the mortality.

Among the several interesting cases which we had this year was one of a young lady 23 years of age who some thirty months prior to the time of operation had insuflated an open lingerie safety pin into the lower portion of the right bronchus. She had had few symptoms from this until some few months before I saw her. Then she began coughing, expectorating some blood and mucous. Hemoptysis brought her to my office. We were able to see the safety pin in the right bronchus, but it was surrounded with friable granulation tissue. This bled so profusely when we first touched it that we were unable to see the pin afterwards. We, therefore, passed the forceps in the right bronchus and by the use of the fluoroscope were able to grasp it and in this manner we removed the half of the pin which contained the shield. We were unable to remove the remaining half. An x-ray examination six weeks later revealed the lung to be perfectly normal and the other half of the pin had disappeared. The portion removed was very rusty and, therefore, one would presume that in the manipulation the remaining half was broken and coughed up without the patient's knowledge.

I have been saving the best for the last: The gentleman who read the essay which I am discussing has contributed a valuable addition to our armamentarium. He has designed a forcep which is of particular benefit to us who are doing this work. The safety pin forcep which Dr. Wood has brought out is simple in operation and in my opinion by far the safest instrument for removing the ordinary open safety pin in the esophagus. It is necessary that one use a flouroscope in connection with it, but that offers practically no disadvantages.

THE HISTORY AND PATHOGENESIS OF GLAUCOMA*

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THE History of glaucoma is really modern as compared to that of other diseases. It was in the seventeenth century that the true character of cataract was made clear by Rolfinck (1656), that it is a clouding of the crystalline lens. Before that time cataract was thought to be the inflow of an inspisated fluid into an imaginary space between the pupil and the lens, and no differentiation was made between cataract and glaucoma.

The term glaucoma is of great antiquity and was applied by the ancient writers indiscriminately to many ocular diseases which cause blindness. Hippocrates used the term glaucosis and that but once; he probably had reference to cataract. The Greco-Romans used the term for a condition of complete blindness with blue pupils. In a pseudo-Galenic manuscript occurs the definition: "Glaucoma is an alteration of the natural fluids (humors) into a clear blue with complete blindness".

Guerin of Lyon (1769) writes: "When the vitreous humor is in too great abundance the pupil is dilated to its fullest extent, and has almost lost its elasticity, such patients complain of a deep, dull pain at the back of the eye, which extends sometimes to the front of the head. If an the remedies of that sort of hydropsia have been without success, one comes to puncture of the eye in the sclerotic." Also recommended by MacKenzie (Glasgow, 1830).

St. Ives (1792) gave a good description of acute glaucoma.

In 1841 Sichel, the leading oculist in Paris, wrote that this disease is entirely incurable. Even in 1858 Demarres claimed the disease incurable.

With the invention of the ophthalmoscope by Hemholtz, in 1851, the true study of glaucoma was started. We must credit Albrecht von Graefe with the first successful operation iridectomy for this disease.

With the first ophthalmoscopes the disk was thought to be swollen and not excavated as we know it to be. Also the lens and vitreous were found clear and the presupposed great choroidal changes absent. J. Platner, in a work published in 1745, in which he ascribed certain cases of glaucoma to an affection of the crystalline lens, gave evidence of his knowledge of the hardness of the eye-ball to finger pressure. In 1830 MacKenzie noted the increased pressure in glaucoma.

In 1856 Heinrich Muller demonstrated by dissection the excavation of the nerve and in 1857 Weber and Forstner saw the true excavation with the ophthalmoscope. At about this time von Graefe discovered the venous and arterial pulse on the papilla, the later seen only when the eye is extremely hard.

Donders showed that arterial pulse could be caused in the healthy eye by pressure on the globe and that temporary blindness was thereby produced. The morbid process in glaucoma was entirely unknown as late as the middle of the nineteenth century, and although von Graefe cured many cases he did not guess at the pathology, and at this time there began many theories as to the cause.

With the perfection of the ophthalmoscope, simple chronic glaucoma became recognized. Donders noted that this was unaccompanied by inflammatory symptoms and but another phase of the same disease; he believed the increased tension was brought about through irritation of the secretory nerves in the eye; others associated the disease with trigeminal neuralgia; others thought of angioneurosis as the cause of congestion of the globe; von Graefe in his last work, 1869, shortly before his death, stated that he was well pleased with the results of his operation iridectomy for glaucoma, but bewailed his inability to explain its mode of action.

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Bowman, in 1862, introduced the measuring of intraocular tension by the finger tip; plus one, plus two, plus three, plus four, and minus one, minus two, minus three, etc. This, of course, brought about many attempts to measure the tension objectively. Snellen in 1891 wrote: "The way of doing this has been determined, but in practice Bowman's method is still preferred, and rightly so, for tonometers are complicated instruments, which easily get out of order." Schortz brought out his practical tonometer in 1910. Gradles modification and the McLear direct reading followed shortly. Souter recently brought out an ingenious direct reading instrument.

Following von Graefe, many modifications and new operations were introduced. Critchett (London, 1858) and Cocius (Berlin, 1859) performed iridectomy combined with iridencleisis.

In 1860 Solomon recommended intraocular myotomy, cutting through the ciliary muscle. In 1876 Argylle Robertson recommended trephining the sclera at the juncture of the ciliary body with the choroid.

In 1867 de Wecker introduced an operation which he termed anterior sclerotomy. This operation was later modified by himself and others—Quaglino, 1871, Bader and Martin, 1880. Panas, 1884, added iridotomy to de Wecker's sclerotomy; 1895 De Vincentis incision of the iris angle; 1905 Heine introduced cyclodialysis. Many operations have been devised for drainage of the anterior chamber under the conjunctiva; Lagrange's sclerectomy, 1906; Freeland Fergus' trephining, 1909, and Elliot's sclero-corneal trephining, with or without iridectomy.

Inclusion operations: 1857 Critchett incised the sclera and permitted the iris to prolapse, or pulled it through and allowed it to become incarcerated. This operation is the forerunner of all the inclusion operations. Iridotasis (Borthen's operation) has been adopted by many men. Iridencleisis, 1907, Holth's operation, is another of the inclusion group.

Foreign body drains were introduced by Mayou and Zorah, 1912. After making a large conjunctival flap and incising the cornea, a piece of silk thread is introduced into the anterior chamber and the conjunctival flap sewed back in place. Stefansson substitutes gold wire in an ingenious way for the silk thread.

Extra ocular operations for glaucoma date back to 1816, when Dupuy, excising the superior cervical ganglion in horses, noticed that injection of the conjunctiva caused marked secretion of sweat upon the head and neck of the operated side. On suggestion of Abadie, Jonnesco of Bucharest, 1897, removed the superior cervical ganglion of the sympathetic nerve.

Rohmer, of Nancy, removed the ciliary ganglion in seven cases of absolute glaucoma, with relief of pain, but pressure did not fall. Injection of Meckel's ganglion, with 5 per cent alcoholic solution of phenol was tried by H. Edward Miller, 1913, with drop of pressure. In 1921 Sluder injected alcohol into the ganglion for M. H. Post of St. Louis, with first, a rise, followed the next day by fall of pressure, lasting about ten days.

At the 1927 meeting of the American Medical Association, Park Lewis, of Buffalo, reported gratifying results in inflammatory glaucoma by radiant heat from the carbon filament of an electric globe.

I have mentioned but a few of the operative procedures for glaucoma. Wilmer, of Baltimore, in 1927 stated that he knew of sixty different operative procedures with many modifications, all for the purpose of relieving pain and reducing intraocular tension.

The history of the medicinal treatment of glaucoma is voluminous, and is still more modern than the operative treatment. MacKenzie, in 1830, wrote that the daily use of belladonna is beneficial to vision in glaucomatous eyes; von Graefe, on the other hand, noted its harmful effects in this disease. Pilocarpin was introduced in 1875, Eserine, 1876. These two are as epochal as von Graefe's iridectomy.

In 1900 Wessely showed that subconjunctival injections of suprarenin caused mydriasis and contraction of the vessels of ciliary body, diminishing the secretions from that structure and the tension became lower. In the same year Dariere, of Paris, reported beneficial effects in a few cases of glaucoma from adrenalin drops.

In 1923 Haumberger began experimenting with subconjunctival injections of suprarenin; good results followed, but the drug has the drawback of raising the general blood pressure. In 1925 he introduced glaucosan for this purpose. This has the local constricting effect without raising the blood pressure. To get away from subconjunctival injections he introduced levoglaucosan drops, which do not affect the blood pressure, but have a very strong local effect.

Cantonnet in 1904 and Martin Fischer in 1910, tried to influence glaucoma by the introduction into the system of osmotic substances. Martin Fischer claimed softening of the glaucomatous eye by sub-conjunctivae injection of sodium citrate. Knapp, 1912, tried pressure massage of the cornea through the closed lids with variable results. Improvement was noted especially in eyes which had a sclerotomy operation. I could keep on retelling of drugs and nonoperative methods used for glaucoma indefinitely.

There are two main theories as to the cause of glaucoma:

1. Donders' theory of hypersecretion.
2. The theory of obstructed excretion. (Manfredi, 1876; Kneis, 1877).

In 1879 Priestley Smith stated that narrowing of the circumlenticular space is the chief factor in the causation of glaucoma. Later he learned that the lens continued to grow throughout life, so he attributed the disease to the disproportion between the size of the lens and that of the eye, the lens continuing to grow and the eye remaining the same size. According to Priestley Smith, congestion of cervical tract brought about by cardiac or respiratory disturbances, chill, shock, etc., in persons who have the disproportion of lens to eye, causes an attack of acute primary glaucoma. There is interference to escape of aqueous by compression of the filtering angle of the large lens.

That glaucoma is more frequent after middle age strengthens the theory that the size of the lens is a great factor. Grimsdale stated that in persons who had one eye operated for cataract without iridectomy and developed glaucoma in the unoperated eye, the aphakic eye remained free of glaucoma through life. Glaucoma induced by mydriatics, Priestley Smith attributes to blocking of the filtration angle by the thickened iris.

In 1888 Snellen advanced the idea that strain on the accommodation tended to induce glaucoma. He said: "In the young eye, during accommodation for a near point, the diameter of the lens is reduced to about the same extent as that of the contracting ciliary circle. The circumlental space remains about as wide as it was before and the zonula remains as tense as before. But the conditions are quite different in advanced life when the elasticity of the lens is lost; the ciliary circle contracts but the form and size of the lens remains unchanged. The ciliary processes are thereby pressed against the lens and the zonula is slackened."

In 1907 Thomson Henderson (England) came forward with a theory that the glaucoma is due to two factors: a constant one —sclerosis of the cribiform ligament—and the second a vascular factor. He thinks that the pressure in the eye does not vary with inflow and outflow of aqueous, but varies with the intraocular venous pressure.

In 1909, as I have already mentioned, M. H. Fischer advanced the theory that glaucoma is an edema of the eye-ball. He said: "It is a state in which the affinity of the tissue colloids for water is increased above that which we are pleased to call normal. This is brought about through chemical changes in the tissues themselves, whereby substances, particularly acids, capable of increasing the affinity of the tissue colloids for water, are either produced abnormally in the tissue, or are stored in excessive amount." On the foregoing was based the treatment of glaucoma with subconjunctival injections of sodium citrate.

In 1918 Shieck claimed to have seen with Gullstrand's lamp, a migration of pigment particles from the posterior surface of the cornea. He believes that these particles block the filtering spaces. In 1920 E. J. Curran advocated a theory that glaucoma is caused by the too close application of the lens to the posterior surface of the iris with interference of aqueous flow from the posterior to the anterior chamber.

Malling recently advocated a theory that glaucoma is really the result of a mild or quiet iridocyclitis; he examined seventy-one glaucoma patients with the slit lamp, finding signs of inflammatory changes in the ciliary body in sixty-two. On comparison with a similar series examined previously without the slit lamp, he found that thirty-three would have been classed as simple glaucoma, instead of secondary glaucoma.

He also found that cases of simple glaucoma without changes in the ciliary body showed changes after a year or two.

Thiel and others showed that fluorescein appears in the aqueous after oral or intravenous administration, both in iridocyclitis and glaucoma, but not in visible amounts in the normal eye. Seidel also confirmed this occurrence, but considered this as evidence of hypersecretion in glaucoma.

Arterio-sclerosis and high blood pressure have been cited as the cause of glaucoma, and it is a fact that the great majority of sufferers from glaucoma have high blood pressure, but we know that both of these conditions occur after the meridian of life.

Gradle suggests that three factors may be present to cause an attack of glaucoma:

1. An anatomic structure that will allow the chamber angle to become closed.

2. A lack of tone of the sympathetics that control the ocular vessels.

3. A sudden rise of blood pressure.

The endocrines are being investigated on their influence in glaucoma. There are no lack of theories as to the cause of glaucoma and in the final analysis it will probably be found that each case has many factors in its origin; that inflammation, secretion, excretion, mechanics, general nervous elements, all may have their part in the cause.

DISCUSSION

J. L. BRYAN, M.D. (Nashville): The history of glaucoma is quite interesting, dating back to the time of Hippocrates. The term glaucoma is from the word "glaukos", meaning "sea green", a symptom characteristic of the condition. It seems quite wonderful that in those days, with only the history of the onset and progress, probably palpation and general appearance of the eye, that a diagnosis with a fair degree of accuracy could be made.

There may have been confusion between glaucoma, amaurosis and cataracts, but they fully appreciated the fact that all of these were incurable. As time went on, and more investigators became interested in this dreaded disease, the points of differentiation became more clear, yet these men were working more or less in the dark, until Helmholtz worked out and invented that crude but ingenious instrument, the ophthalmoscope, which enabled an observer to look into the living eye, and study the existing condition. From that time on till the present, there have been investigators working, and working hard, to discover and tell us more and more about glaucoma.

The advent of the ophthalmoscope allowed the classifications of glaucoma and the differentiations, from other intra-ocular conditions.

Another great aid in the diagnosis has been produced, the tonometer, which is fallable, but sufficiently accurate if kept in good condition, used by the same observer, with the proper technique on corneas without deformities, frequently enough with tabulation. This replaces the old finger method, which was quite inaccurate. However, there are ophthalmologists of today who prefer the latter method, and who are so well trained that they can keep up with the intra-ocular tension fairly well.

Dr. Long has mentioned the medicinal and surgical treatments. The drugs or combinations of drugs used, are limited and are probably more universally efficacious under the proper indications than the operations. Yet, surgery is indicated and must be done in certain cases. The type of operation (of which there are many) should depend upon the individual case, and the surgeon's skill.

Early in the history of glaucoma, we find many theories as to its cause; more theories have been added, and probably there are more yet to come, each advanced by leaders, based on their own experiences and investigations. The majority of these theories seem to be well founded, yet some have proved of little value.

Glaucoma is indicative of an abnormal condition of the eye; it is probably more accurately a syndrome, symptom complex, the chief feature being manifested as an intra-ocular pressure.

The divisions or classifications of glaucoma into simple, chronic, inflammatory, non-inflammatory, acute and subacute forms, is natural in considering the condition as a disease per se, but it is also confusing. Probably a more simple nomenclature would be preferred.

Hypertension is recognized as the dominant feature of this condition and demands the closest attention in the study and treatment, but underlying this may exist pathologic changes and conditions so diverse and complex as to defy the efforts of investigators. Difficulties are presented from the outset. A knowledge of the pathological anatomy is necessary. Most of the glaucomatous eyes that come to section are in the last stages. This prevents a thorough study of the early conditions and until materials can be obtained for the microscopical study of the disease from its incipiency to its final stage, we will still be speculating to a certain extent.

Age seems to play quite an important role. The systemic diseases incident to age are probably the more direct cause, than age itself. The percentage of glaucomatous eyes is quite small. The admirable words of the late S. D. Risley seem appropriate in this connectipon: "Glaucoma is a disease, coming on at an age when wear and tear, harassing vicissitudes, misfortune, exposures, over-work and vicious living have sapped the physiologic foundations of life; when infections have found entrance to the structure of the organism through the doorway of the eputhelium; and when a variety of toxic, auto-intoxic and other influences have set up vascular, and cardiovascular diseases, associated nephritis, uveitis, high blood pressure, etc. Glaucoma, in fact, rarely occurs in individuals in good general health."

JAMES B. STANFORD, M.D. (Memphis): We should all be grateful to Dr. Long for giving us, in a condensed form, the history of our knowledge of glaucoma and the various theories as to its cause. It is probable that most of us would neglect to keep ourselves informed of the progress of studies of the disease if it were not brought to our attention in this manner.

It is my opinion that we should all have a better conception of glaucoma, if we considered that simple glaucoma, subacute glaucoma, acute glaucoma and secondary glaucoma are separate disease entities with the common symptom (usually) of increased intra-ocular tension.

Greater care in diagnosis will save vision in many of our cases, for if one waits until the text book picture of glaucoma is complete before treatment is instituted, much vision is lost beyond recovery. I have lost faith in my ability to determine the degree of tension in an eye with my fingers and I have not any greater faith in any other person's ability. My fingers and my tonometer often disagree in judging tension except when it is very high. I believe there is little choice among the instruments Dr. Long mentions if the same one is used on both eyes throughout the course of the case. I might mention Sonter's tonometer as an exception to this because I believe the personal equation enters too much into the reading of that instrument, though it is more useful than the others in cases of abnormal corneal curvature.

The fact that there are sixty operations for the cure of glaucoma is sufficient evidence that no known procedure is satisfactory. It is my opinion that each ophthalmic surgeon should adopt two or three of these operations which give the best results in his hands and confine himself to these. It is very evident to all of us that our efforts so far have been directed at the symptoms of the disease and that great progress will not be made until its cause is determined and our energies be directed to its removal and prevention.

PERFORATION OF THE NASAL SEPTUM OCCURRING IN THE MANUFACTURE OF CALCIUM ARSENATE*

W. D. STINSON, M.D., Memphis

PERFORATION of the nasal septum as the result of arsenous oxid fumes was reported in the smelting industry several years ago, but to my knowledge attention has not been directed to this condition in the preparation of Calcium Arsenate or boll-weevil poison although undoubtedly known. Having recently seen a patient who had been treated for syphilis in spite of negative history and serological tests, on the basis of a stubborn destructive ulceration of the septum, I feel that a description of this condition is in order.

I wish to emphasize the fact that the condition under discussion occurs in the manufacture of Calcium Arsenate and not in the use of the final product, the latter being non-irritating to the respiratory membranes. The majority of cases seen occurred in new employees, or at least those who had recently been put on the mixing machine. Age seemed to be no factor, as they were seen from 19 to 45. The patient's chief complaint was nasal obstruction and bloody discharge, never pain, and only in a few instances did he attribute his condition to his occupation. Frequently there were associated lesions of the skin, particularly on the eyelids and genitalia, apparently finger-borne, arsenous oxid being converted into arsenic acid when in contact with moisture, and being irritating only in that state. I have seen no Gastro-Intestinal cases. I have never encountered these lesions around the nasal vestibule.

Rhinoscopy presents a varying picture depending on the stage of the ulceration. Usually only one side is involved until the perforation becomes complete. I have seen simple erosion of the mucosa, later involvement of the perichondrium leaving a bare cartilage, still later the cartilage perforated, exposing the perichondrium of the opposite side, and finally complete perforation. The initial lesion always occurs at Kesselbachs area, consequently is considered by some authors as being a result of thrombosis; however, as this is also the site of traumatic ulcers the latter theory cannot be denied.

In the complete perforation the cartilage disappears from dystrophy, never coming out en masse. The lesion has the appearance of a squarely amputated finger (Dunlap), the cartilage being flush with the mucosa. The mucosa is greatly swollen, the edges are gray and sloping, edematous and everted. It is separated from the cartilage 0.5 to 1 mm., as though elevated mechanically in a submucous resection. The cartilage becomes thicker, which with the formation of hard crusts produces marked obstruction. Fortunately, destruction of the cartilage stops within approximately 1 cm. of the columella, the roof and the posterior and inferior borders, so that there is never extensions into the bony parts and consequently never any external deformity such as saddle nose. I have never seen any involvement of the mucosa of the turbinates.

Spontaneous healing occurs by a thinning out of the edges of the cartilage, the anterior margin healing first and the posterior superior last, three weeks to three months being required for complete absorption. Eventually a knife-like margin is obtained and crusting ceases. Consequently resection of the exposed cartilage well back beyond the margin of the mucosa will hasten recovery, complete healing occurring in two to three weeks.

Several preventive measures have been tried, such as nasal irrigation, rubber masks, cotton plugs soaked with vaseline, none being satisfactory. Recently, the mixing machines have been equipped with ventilators which draw the fumes away from the operator, resulting in a very great decrease in incidence.

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*Read before the Ear, Eye, Nose and Throat Section at the Centennial Meeting of the Tennessee State Medical Association, Nashville, April 8, 9, 10, 1930.

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H. H. SHOULDERS, M.D., Editor and Secretary

FEBRUARY, 1931

EDITORIAL

PUBLIC HEALTH

The term public health has come very much to the front in recent years. It conveys no definite meaning other than the health of the public. It came into general use not so long ago when it became necessary for the state (the government) to take definite action toward the control of contagious diseases. At that time it was never intended that the public health be confused with private or individual health.

The government was created and is maintained mainly, for the purpose of providing people with protections which they cannot provide for themselves. The government protects people in their legitimate work and in their liberty. It robs them of their liberty only when an urgent public necessity arises. For example, a war.

One of the functions of the government is to provide individuals against health hazards, which protection they cannot provide for themselves.

It is not a function of the government, either state or national, to supply individuals with food, clothing, housing and other personal necessities. It is the duty of individuals to supply these for themselves. Likewise, it is not a function of the government to look after the personal health of individuals.

An individual cannot protect himself against contagious diseases, against the effects of the unsanitary surrounding of his neighbors, an impure water supply, an impure milk supply, etc. It is clearly the function of the government through its public health department to provide citizens with protection against such hazards.

Individual health is entirely another matter. For example, infected tonsils and abscessed teeth may cause serious consequences to individuals, but they constitute no hazard to the public health. The profession of medicine and the profession of dentistry exist for the purpose of taking care of these individual health problems.

The dividing line between public health and individual health seems to be clear. The purpose for which government exists seems to be clear. The logical limitations of the government seems to be clear.

If governmental agencies remain within their proper sphere of activity there will be no cause for criticism on the part of private practitioners of medicine. Public health agencies in some instances have seen fit to devote their time and attention to individual health problems. For example, tonsils are removed and other attention to personal health given. When a public health officer engages in such an activity he is putting the state, which pays him his salary, in the attitude of competing with private citizens and in addition such an officer may be neglecting a public health duty.

The same argument which will justify an employee of the health department of the state leaving the sphere of public health and engaging in private health matters will justify the whole of state medicine. In other words, the same argument which will justify the handling of one type of purely personal illness will also justify the handling of all illness by the state.

Infected tonsils may cause serious consequences. A broken leg may also cause serious consequences. A pneumonia may cause a serious consequence, or an accident may result seriously.

A similar question is up in Washington at the present time. One group of officials are urging that Congress appropriate money out of the public treasury to feed the poor in the drouth stricken areas. Another group hold to the view that such a step is not a proper function of the government and that if such a measure is passed would establish a very unwise policy.

There is no dispute between the two

groups as to the existence of urgent need. *There is dispute as to the wisdom of such a governmental policy.* The same is true as regards the attitude of the profession of medicine with reference to public health policies. The profession of medicine has never opposed, but on the contrary has sponsored measures looking to the protection of the public health. The profession is opposed to the state as such engaging in the work of dealing with private health matters.

If the government establishes a policy of feeding the poor out of the public treasury and if state health departments establish the policy of giving medical and surgical care to private individuals, then we have taken a long step toward socialism or communism.

Communism in medicine has been tried in some of the old countries with disastrous results.

Communism is being tried in Russia with results we will not discuss.

It seems wise that we cling to the fundamental principles in the matter, namely, that it is the purpose of the government to supply individuals those protections they cannot supply themselves. Once we leave this definition and endeavor to make and establish an arbitrary line between the duties of the state and the duties of the citizens, at any other point we are lost.

It must be borne in mind that precedent in governmental affairs is all powerful. The establishment of a bad policy may have a slight effect at first, but it will serve as a precedent on which to hang all sorts of future activities.

The question here involved is not a question of right or wrong, of honor or dishonor. *It is a question as to the wisdom of a governmental policy.*

Shall we hold to the fundamental principles of American government all the way through or shall we substitute for them communistic ideas in part? If we do substitute communism in part, or in so far as medicine is concerned, in our opinion it will be a long step toward complete socialism, and this is a matter on which public-spirited citizens and statesmen and leaders might well do some thinking.

SCARCITY OF DOCTORS

Some years ago a great cry was raised about the scarcity of doctors in Tennessee. This was ground for the revision of laws governing the licensing of doctors. A tremendous change has taken place in Tennessee since that time. Roads have been built. A car can be driven to most any point that is suitable for human habitation.

Today we hear greater complaint of country doctors and small town doctors being unable to earn a livelihood than we hear of the scarcity of doctors.

The fact is that rural dwellers will not patronize the old country doctor who still lives among them. They call a doctor from town. The country doctor in several instances has found it necessary to move to town and some will take care of practice he formerly did in the country.

We have on file a number of requests for information as to good locations in Tennessee for a well prepared practitioner. The cooperation of the profession is requested in placing these men. Please forward complete information as to locations to this office at an early date.

WOMAN'S AUXILIARY

On another page of this issue of the Journal will be found a statement concerning the activities of the Woman's Auxiliary.

Members are requested to show this issue of the Journal to their wives. They will find something in each issue from now on concerning the Woman's Auxiliary.

DEATHS

Dr. John Quincey Hollifield, Tiptonville; University of Tennessee Medical School, Memphis, 1919; aged 36; died January 22, of pneumonia.

NEWS NOTES AND COMMENTS

Dr. G. M. Rogers has recently located in LaFollette and is giving special attention to treatment of the diseases of the eye, ear, nose and throat.

Dr. C. C. Hacker, of Elizabethton, has resumed his practice of medicine after having qualified himself to give special attention to the eye, ear, nose and throat.

Dr. W. S. Nash, of Knoxville, is enjoying a two months' vacation in Florida.

Late in January the doctors of Brownsville entertained the doctors of West Tennessee at the Haywood County Memorial Hospital. In all about one hundred guests enjoyed the hospitality of Brownsville medical fraternity.

Last month Dr. H. K. Cunningham, of Knoxville, was seriously ill at the Fort Sanders Hospital. It was thought the doctor was infected during an adenoid operation.

Dr. Morgan Clack, of Rockwood, has opened offices in Dayton. He is associated with Drs. W. F. and W. A. Thomison.

PRAISE FOR AMERICAN SURGERY

Dr. A. W. Meyer, brilliant and distinguished surgeon of Berlin, after a tour of the operating room of American hospitals has found Americans more or less insensible to the fine spirit and efficiency of surgery as carried on in the United States today.

He thinks that we have here but a vague notion of the wonderful work our surgeons do, or of the marvels of scientific and helpful aids they make use of for the success of their operations.

He feels, he says, that American surgery has created an era of technique that blends the beauty of an art with the exactness of a science, and calls more than one operation witnessed by him a joy such as he had never before experienced.

With many details of the splendid preparations, and the exquisite carefulness of them, in making ready for an operation, he speaks with enthusiasm of the brilliance of the work itself.

"The impression derived from American surgical work," he says, "is overwhelming, because in the great clinics, one finds operations carried out on a grand scale which leaves the European, however, accustomed to competent work, simply dumbfounded."

He notes the use of chemical therapy, the evolution of the local anesthetic, and "the exquisite skill of the surgeon himself, acquired in part by practice, in part by aptitude, and in part by long training."

He notes also, as another factor in the marvels wrought, "the teamwork of all concerned."—*Knoxville Journal.*

THE HIGH COST OF MEDICAL CARE
"PAYING THE DOCTOR"

Often it is said, "Well, I have paid all of my bills but the doctor's."

This is not true in every case, but many times the doctor's bill is placed at the bottom of the stack for attention in the future.

At this particular season of the year there is much sickness. Doctors are giving tirelessly of their time to administer to the sick. Their work is not finished at a specified time. When called they do not inquire first if you can pay for their service, but willingly and quickly perform their duty, for sickness does not respect time.

The doctor must meet his obligations the same as any other man.

The expenses of his office as well as the upkeep of his automobile are heavy. He does not ask that you pay the bill immediately, if that is not possible, but is glad if you show a willingness by making small payment on the account.

The doctor who has his profession at heart, whose life is wrapped up in administering to those who are sick and in pain, sacrifices for his patients in many ways of which they are unaware. It is only gratitude that should make everyone with a doctor bill on their list, show their appreciation by paying the bill.—*Knoxville Journal.*

"DOCTORS VS. LAWYERS"

(Bulletin of the Chicago Medical Society.)

Recently we have seen some figures giving the incomes of the classes of 1905 of the Harvard law and medical schools. The incomes of the graduates of the Harvard medical school in their twentieth year of practice averaged about half that of the lawyers who graduated in the same year. In both cases the class was a selected group who had bachelors' degrees before entering the professional school. The medical men spent four years in school instead of three and in most cases served as internes for from one to two years after graduation.

A further analysis of the incomes of the law graduates is of interest particularly at a time when there is so much economic unrest among the members of the medical profession. The lawyers of Harvard, 1905, who were practicing alone, in 1925 earned on the average of $10,178; those who were members of a partnership, $29,457; those on salary, $9,285; the total average earnings of those practicing was $19,490. That is to say, those who were practicing alone or who were employed were earning about the same amount as were the graduates of the medical school of 1905; those who were members of a partnership were earning nearly three times as much. The graduates in medicine were for the most part practicing alone, though a few may have been on a salary and a very few members of a partnership.

Is it not possible that if there were more partnerships in the practice of medicine the incomes of physicians would be increased? —*Chattanooga Times.*

PROGRAM FOR MEETING OF THE VANDERBILT MEDICAL SOCIETY

January 2, 1931, 8 P. M.

Amphitheater of the Medical School

1. Case Reports.
   (a) *Calcification of Pericardium*—Dr. J. B. Youmans.

A male of 54, with a history of an obscure acute illness ten years and again fourteen months before admission, complained of mild symptoms of non-congestive heart failure; slight shortness of breath, palpitation, and a feeling of fullness in left chest. X-ray examination showed a rather extensive calcification of the pericardium.

Case discussed by Dr. Burwell.

(b) *Elephantiasis of Arm*—Dr. J. C. Overall.

E. D., white male, age 12 hours, admitted to Vanderbilt Hospital with marked enlargement of left arm present at delivery. Family history and physical examination negative. X-ray showed no bone pathology except fracture of humerus produced by difficult delivery. Tumor involved entire arm, was lobulated, and multilocular cysts contained straw colored fluid, 100 c.c. of which were withdrawn for diagnostic purposes. The arm, which weighed one and a half pounds, was removed.

Case discussed by Dr. Brooks.

2. *Etiological Studies of Granuloma Inguinale*—Dr. W. A. DeMonbreun and Dr. E. W. Goodpasture.

As a result of intensive cultural investigation of seven cases of granuloma inguinale, it is concluded that the Donovan organism has not been cultivated and will not grow on any ordinary bacteriological medium. It is regarded as a cytotropic parasite.

Monkeys (M. rhesus) were successfully infected with Donovan organisms in tissue from an early case of granuloma inguinale.

Paper discussed by Drs. Goodpasture and Cunningham.

3. *Observations on the Etiology of Hyperplasias of the Endometrium*—Drs. John C. Burch, W. L. Williams and R. S. Cunningham.

This paper presented the results of a study of the endometrium of spayed animals which have been treated by injections of oestrin, corpus luteum and a combination of the two. These experimental results are compared with the normal human cycle and it was found from the histological appearances of human tissue that the cycle could be divided into two phases: one, the oestrin phase running from one to fourteen days; the other, the corpus luteum phase running from fourteen to twenty-eight days.

Hyperplasia of the endometrium of the Swiss cheese type, interpreted on the findings, is seemingly the result of the oestrin hormone. Cyst fluid in human cases of hyperplasia was injected into spayed animals, producing a very similar picture.

Paper discussed by Dr. Lucius E. Burch.

MEDICAL SOCIETIES

Blount County—The Blount County Medical Society meets every Thursday night. Last year's report shows 25 members. Total attendance of 605 for the year. One hundred cases were reported; 27 papers read; 103 discussions of papers; nine clinics presented; 48 regular meetings were held during the year and one special meeting; 17 visiting doctors attended the meetings; 3 special addresses were made by visitors.

This is a record to be proud of. We doubt if it is excelled by any other county in the state.

Carroll, Henry, Weakley, Benton Counties—The January meeting was addressed by Dr. H. H. Shoulders and Dr. C. M. Hamilton, Nashville, the themes being "Medical Organization" and "Deep X-ray Therapy", respectively.

At the dinner covers were laid for twenty. Following the meeting the Carroll County members elected Dr. W. E. Massey, President, and Dr. L. E. Trevathan, Secretary.

Coffee County—The January meeting was held in Tullahoma, with Dr. J. A. Mitchell discussing cancer.

Davidson County—Jan. 6: Annual dinner at Belle Meade Club and election of officers. The after-dinner speaker was Mr. Tandy Ellis, of Lexington.

Jan. 13: "Infectious Jaundice," by Dr. Wm. R. Cate. Discussion opened by Dr. Owsley Manier.

Jan. 20: "Report of the Work of the Committee on the Cost of Medical Care," by Dr. K. S. Howlett, Franklin.

Jan. 27: "Deep Radiotheraphy", by Dr. C. M. Hamilton. Discussion opened by Dr. E. E. Brown.

Feb. 3: "Infantile Glaucoma", by Dr. Herschel Ezell. Discussion opened by Dr. Henry Carroll Smith.

Five-County Society—The following program was rendered before the Five-County Society at Lawrenceburg on January 27th:

"Hypertension", by Dr. R. C. Derivaux, Nashville. Discussion opened by Dr. T. J. Stockard, Lawrenceburg.

"Recent Observations of Cancer Treatment",. by Dr. Frank Fessey, Nashville. Discussion opened by Dr. J. H. Tilley, Lawrenceburg.

"Intestinal Antiseptics", by Dr. W. E. Boyce, Flatwoods. Discussion opened by Dr. J. A. Danley, Lawrenceburg.

There were eighteen doctors present.

Hamilton County—The January programs were as follows:

"Syphilis and Pregnancy", by Dr. J. R. McCord, Atlanta.

"Allergy", by Dr. J. L. Bibb.

"Louis Pasteur", by Dr. Franklin B. Bogart.

"The Tired Child", by Dr. Wm. D. Anderson.

"Sinus Bronchus Infection", by Dr. T. Lyles Davis.

On February 5, Dr. Frank Lells Boland, of Atlanta, addressed the society.

February 12: "Infantile Paralysis", by Dr. J. B. Phillips; "Minor Back Injuries", by Dr. J. Paul Johnson.

Haywood, Lauderdale, Tipton Counties—Haywood, Lauderdale and Tipton Counties are getting together for their scientific programs. Officers of the association were elected in December. The January meeting was held at Ripley. Thirty-three members were present and a number of visitors from Dyersburg and Memphis. Interesting talks were made and an elegant dinner served.

Knox County—Jan. 13: Dr. S. R. Miller read a paper on "The Need of a Sixth Sense in the Care of Industrial Injuries". Discussion opened by Dr. Kyle Copenhaver.

Jan. 20: Dr. R. B. Wood's subject was "Psychopathological Problems of Childhood". Discussion opened by Dr. Oliver Hill.

Jan. 27: Dr. Joe T. Smith read a paper on "Preventive Medicine as Applied to Pediatrics". Discussion opened by Dr. Posegate Wood.

Feb. 3: Dr. J. B. Naive gave a paper on "The Problem of Tuberculosis in the Negro". Discussion opened by Dr. Raulston.

The Knox County Society is making big plans for the next state meeting. You will miss a lot if you are not present in Knoxville on April 14, 15, 16.

Madison County—On January 6, a two-reel motion picture was exhibited at the New Southern Hotel. The title of the picture was "Treatment of Normal Breech Presentation".

Dr. McClaran reported a case of tumor and its treatment.

Maury County—On January 12th, Dr. W. E. Black read a paper on "Allergy". The attendance was good and the program interesting to all.

Roane County—On January 20 the regular meeting was held at the Harriman City Hall. The attendance was good and all enjoyed Dr. Zirkle's able paper on "Diphtheria".

Robertson County—At the January meeting Dr. J. R. Connell, of Adams, presented a paper on "Erysipelas", and Dr. W. B. Dye, of Springfield, on "Diagnosis of Pulmonary Tuberculosis in Border Line Cases". Both papers were well presented and brought out liberal discussion.

Sumner County—The Sumner County Society met on January 24th. After an interesting scientific program officers were elected.

LIST OF OFFICERS FOR 1931

Bradley County:

W. B. Campbell, Cleveland, President.
R. O. Kibler, Cleveland, Vice-President.
S. J. Sullivan, Cleveland, Secretary-Treasurer.

Cumberland County:

E. W. Mitchell, Crossville, President.
V. L. Lewis, Crossville, Secretary-Treasurer.

Davidson County:

L. W. Edwards, Nashville, President.
C. M. Hamilton, Nashville, Vice-President.
N. S. Shofner, Nashville, Secretary-Treasurer.

Dickson County:

L. F. Loggins, Charlotte, President.
W. M. Cunningham, Cumberland Furnace, Vice-President.
W. J. Sugg, Dickson, Secretary.

Gibson County:

G. C. Bryant, Milan, President.
B. S. Penn, Humboldt, Vice-President.
F. L. Roberts, Trenton, Secretary.

Henry County:

R. G. Fish, Paris, President.
George D. Boone, Paris, Vice-President.
A. A. Oliver, Paris, Secretary.

Hickman County:

John S. Beasley, Centerville, President.
W. K. Edwards, Centerville, Secretary.

Knox County:

Tom R. Barry, Knoxville, President.
R. G. Waterhouse, Knoxville, Vice-President.
Jesse C. Hill, Knoxville, Secretary-Treasurer.

Sumner County:

Geoffrey Morris, Gallatin, President.
J. M. Oliver, Portland, Vice-President.
W. M. Lackey, Gallatin, Secretary.

AUXILIARY NOTES

The Knox County Auxiliary gave a benefit bridge party at the Holston Hills Country Club on January 30th.

Members of the Shelby County Auxiliary are helping the Mayor's Relief Bureau.

The Davidson County Auxiliary has elected the following officers:

Mrs. Theodore Morford, President.
Mrs. Robt. Sullivan, Vice-President.
Mrs. O. G. Nelson, Recording Secretary.
Mrs. J. L. Bryan, Corresponding Secretary.
Mrs. Herschell Ezell, Treasurer.

NEWS OF WOMAN'S AUXILIARY

THE WOMAN'S AUXILIARY TO THE
TENNESSEE STATE MEDICAL ASSOCIATION

President, Mrs. Milton Smith Lewis, Nashville.
President-Elect, Mrs. W. H. Gragg, Memphis.
First Vice-President, Mrs. Kyle C. Copenhaver, Knoxville.
Second Vice-President, Mrs. Willis Campbell, Memphis.
Third Vice-President, Mrs. B. F. Byrd, Nashville.

Directors:
Mrs. W. D. Haggard, Nashville.
Mrs. W. O. Floyd, Nashville.
Mrs. Alfred Mason, Memphis.
Mrs. W. S. Anderson, Memphis.
Mrs. Oliver Hill, Knoxville.
Mrs. J. L. Raulston, Fountain City.

Advisory Committee of Doctors:
Dr. Jos. Gallagher, Chairman, Nashville.
Dr. Kyle C. Copenhaver, Knoxville.
Dr. J. A. Crisler, Memphis.
Dr. N. S. Walker, Dyersburg
Dr. H. A. Laws, Chattanooga.

The Woman's Auxiliary to the Tennessee State Medical Association is very young but progressive, and the work of the past year has been very worth while.

Recently the president of the State Medical Association, Dr. McElroy, appointed our first advisory council. Three counties are organized and each has a splendid health program.

Plans are being completed for a series of ten radio talks on health education, the first taking place Saturday evening, February 7th, over WLAC, at Nashville.

Davidson County sponsored the entertainment of the visiting ladies to the Centennial of the State Society last April in Nashville. The national Hygeia chairman, Mrs. R. N. Herbert, of Nashville, also State Hygeia chairman, has presented papers on Hygeia to several clubs in Nashville besides having arranged a series of radio talks for the fall 1930. Toys are taken regularly to the children in the wards of the General Hospital, and clothing consisting of gowns and shoes has been furnished children in the County Tuberculosis Sanitarium.

Shelby County Auxiliary is working toward a student loan fund of ten thousand dollars by giving a benefit musicale and a card party annually, and on February 2nd these ladies are opening a tea shop to raise money for this same objective. An undernourished child is being cared for in the Tuberculosis Preventorium. In addition to this the Auxiliary has offered its services to the Mayor's Unemployment and Relief Committee, and are now taking care of five families for one month.

Knox County Auxiliary has given a series of benefits to raise funds for layettes for foundlings and plans are being laid for a student loan fund.

BOOK REVIEWS

"Tropical Medicine in the United States". Alfred C. Reed. 410 pages, 60 illustrations. J. B. Lippencott Company, Philadelphia and London. Price $6.00.

This text book by the Professor of Tropical Medicine of the Pacific Institute of Tropical Medicine is a valuable addition to a subject which has received entirely too little attention in this country. As the author states in his preface, tropical medicine is the practice of medicine in hot climates whether the diseases are exclusively those of the tropics or not. The objective of the book is stated to be to present a serviceable guide to the physician in the United States in his contact with tropical medicine. The subjects discussed include protozoal, spirochetal, bacterial, mycotic and metabolic diseases as well as diseases of unknown etiology and helminthic infestations. There is also a chapter on arthropod parasites and vectors and sections on personal hygiene and tropical climatology. The various diseases are presented for the most part in a complete and practical manner with special emphasis on clinical aspects and therapy. The consideration of amoebiasis, malaria, bacillary dysentery and leprosy are particularly well done. The author shows his personal familiarity with a wide variety of diseases and a thorough knowledge of recent literature.

As is almost inevitable in the first edition of a text book, certain errors and omissions are apparent which may be mentioned for the sake of suggestion rather than as severe criticisms. The pigment produced by the malaria parasite, for instance, is erroneously spoken of as melanin. Bartonella bacilliformis, the organism of Oroya fever, is called a paratyphoid organism. Strongyloides is spoken of as Strongylus (p. 200). The filarial worm Wuchereria is called Wucheria. The European hookworm is called Ankylostomun instead of Ancylostoma. The illustration of the crab louse bears the generic name Pediculus instead of Phthirus. The treatment of amoebiasis is made much more complicated than seems to be warranted even for such a stubborn infection. The author dangerously advocates the omission of a purge after the administration of carbon tetrachloride. Certain noteworthy omissions are: the absence of any mention of egg-counting to estimate the intensity of helminth infections; the omission of endemic typhus which is present in the southern states and is not louse borne; and the omission of the value of yeast in the treatment of pellagra. Despite these minor defects, the book should be received enthusiastically by the medical profession and deserves a wide usage in all parts of the country.

—Henry E. Meleney.

"Treatment of Epilepsy". By Fritz B. Talbot, M.D., Clinical Professor of Pediatrics, Howard University Medical School; Chief of Children's Medical Department, Massachusetts General Hospital. 308 pages. New York: The Macmillan Company, 1930. Price, Cloth, $4.00.

This monograph, according to the author, is intended to supplement that of Lennox and Cobb, the latter being an exhaustive review and evaluation of the literature on the subject.

However, sufficient facts are given covering the history, etiology, pathology and prognosis of epilepsy for an understanding of the disease from the point of view of the pediatrician or general practitioner. The facts are presented in a clear and concise manner without attempting to theorize. The prognosis, according to the author, need no longer be considered hopeless, and time alone will show how much it can be modified by the various methods of treatment now being used.

In the discussion of the treatment of epilepsy a few chapters are devoted to the hygenic, educational, recreational and medical measures that have proven of benefit to these cases. However, much more emphasis has been laid on the theory and use of the ketogenic diet. This, of course, is in agreement with the recent work that has been done on this subject, and perhaps is justifiable in view of the reported success with this new form of treatment, especially for children. The method of treatment by dehydration is considered briefly, but not emphasized. The ketogenic diet with practical menus makes this quite valuable as a reference guide for the practitioner. The bibliography is very complete and covers most of the recent literature on this subject. —T. F. B.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By Hugh Barr, M.D.

Medical Arts Bldg., Nashville

Region Anesthesia As Applied to Urological Surgery. R. B. Henline, M.D., New York City. The American Journal of Surgery, Nov., 1930.

A patient undergoing an operation deserves the anesthesia as well as the surgical procedure which will prolong his life. The author believes that regional anesthesia combined with some sedative as morphine or luminal to allay fear is the method of choice. His experience with spinal anesthesia was unfortunate, having had two fatalities in a small series of cases.

The following conclusions are stated, that regional anesthesia using one per cent procaine is the safest form of anesthesia, especially for urologic cases. An ideal anesthetic combines relief of pain in the operative field with complete mental relaxation. The toxicity of procaine depends entirely on the strength of the solution and the rate of administration. Procaine is destroyed in the liver at the rate of one lethal dose every twenty minutes with no cumulative effect, and adds no additional burden on the kidneys. The pain actually felt or experienced varies with the individual. The amount of procaine solution necessary to produce anesthesia varies with individuals. This is particularly true in sacral anesthesia because of variations in the size of the sacral canal, permeability of the nerves, absorption, extravasations of the solution through the lateral sacral foraminae, the threshold of pain, idiosyncrasies to procaine are very uncommon although toxic manifestations do occur, they are transient.

DERMATOLOGY

By E. E. Brown, M.D.

Doctors Building, Nashville

Dermatitis of the Eyelids Caused by Dionin. By Clyde L. Cummer, M.D., Cleveland, Ohio.

He reports a case of dermatitis on the eyelids that developed after eleven years use of dionin. This was apparently proven by discontinuation of the use of the drug and for the substitution of boric acid solution. Later dionin was again used and a dermatitis again developed.

Intestinal Flora in Psoriasis: A Preliminary Report. By Hans J. Schwartz, M.D., and John C. Torrey, Ph.D., and J. Frank Fraser, M.D., New York, N. Y.

The authors have investigated intestinal flora in cases of various severity of psoriasis together with those of persons that did not have psoriasis and while their findings are not final they apparently have reached the following conclusions:

1. The tendency to putrefaction is not constant.
2. The flora of bacteria in the generalized cases seem to be as diversified as those in the milder cases. They further tried the skin sensitization tests with autogenous antigens prepared from the various organisms isolated from the intestinal tract, but the data were considered too few and inconclusive for comment at this time.

OPTHALMOLOGY

By Robert J. Warner, M.D.
Doctors Building, Nashville

As to Roentgen Therapy of Tumors of the Hypophyseal Region. F. I. Jusefowa, L. I. Czerny, and J. I. Heinismann. American Journal of Ophthalmology, January, 1931.

The authors report their ophthalmological, neurological, and roentgenological observations of 70 cases. Fifty-two patients (twenty-four men and twenty-eight women, of the ages from under twenty to forty years) were clinically and roentgenologically studied. They were divided into three groups: tumors with acromegaly, with adiposogenital dystrophy, and with ophthalmic types, some typical cases being described in detail.

The conclusions were: A careful examination of the visual field renders the early diagnosis of tumors of the hypophyseal region possible. Characteristic changes of the visual field for colors may coexist with normal field for white. Of equal importance are absolute or relative scotomas, especially if combined with the blind spot. The typical aspect of bitemporal hemianopsia may be obscured; temporal hemianopsia of one eye and blindness of the other are frequent; while concentric contraction and homonymous hemianopsia are rare. Simple atrophy of the optic nerve from secondary degeneration is the most frequent ophthalmoscopic alteration. Choked disc is much more rare. In progressive intracranial pressure it may lead to simple atrophy. A symmetry in the impairment of vision of both eyes was often observed. Vision may rapidly fail in one eye and remain normal in the other for quite a time. Failure of sight and pallor of disc do not go parallel.

Deep roentgen therapy gives good results and is the most reliable remedy. The best results are obtained in tumors with acromegaly and adiposogenital dystrophy, while the ophthalmic forms react less favorably. In high intracranial pressure, the roentgen therapy must be preceded by preventive decompression.

OTOLOGY, LARYNGOLOGY, RHINOLOGY

By W. G. Kennon, M.D.
Doctors' Building, Nashville

Chronic Suppurative Otitis Media, by George E. Shambaugh, M.D., Chicago. Archives of Otolaryngology, Vol. 12, No. 6. December, 1930.

Chronic suppurative otitis media presents a variety of forms and a multiplicity of symptoms. Profuse or scanty discharge, extremely offensive, uninfluenced by treatment, or an offensive odor which can be quickly dispelled by treatment, or in some cases entirely free of offensive odor.

The perforation may be in any location. In some the perforation is very small, in others practically the entire tympanic membrane may be destroyed and at times extension may involve the bony rim in the so-called marginal type of perforation. The disease often involves only the membranous lining of the chambers of the middle ear, but in others the disease of the mucosa involves the underlying bone through caries or erosion produced by cholesteatoma. In some, there is danger of possible serious intra-cranial complications. In most cases the danger of serious complications is negligible. With the variety of types and multiplicity of symptoms no one treatment is suitable to all cases. Some require only simple local treatment, while in those in which serious complications seem imminent, no surgical procedure which is aimed to the eradication of the disease may be considered too radical. The determination of which patients require operative treatment requires great technical skill and clinical experience. Too little emphasis is given to these clinical problems in the current literature on otology.

In most of our text books there is rarely any clear statement of this most important problem of deciding which patients require simple local treatment and which radical surgical measures. The widespread impression still persists, which was held by earlier otologists, that every case of chronic suppurative otitis media is a potential menace from which at any time there is likely to develop a serious, or even fatal complication, and that, therefore, if treatment for a reasonable length of time has not resulted in a cure, it is proper to advise surgical measures. In fact, it is the exceptional case in which serious menace of possible complications exist, and it is for these exceptional cases that operative measures are justifiable. In all others, simple local measures should be persisted in, even though it become apparent that by this treatment one is unable to effect a complete cure.

Operative measures are not indicated primarily to cure the discharge. The object is to eradicate a focus of bone invading disease which has developed in connection with the chronic suppuration. This focus in the nature of a caries, or cholesteatonia is located in the attic, aditus or antrum, and it is this that constitutes the menace of possible serious complication. An operation which eradicates this focus is a successful procedure, even though it may not, and often does not, result in complete cessation of the discharge. The problem is, therefore, one of differentiation between the cases in which the menace of serious complication exists and those in which this factor is negligible. This problem is answered by the fact that pathologically there are two forms of chronic suppurative otitis media. In one, the disease involves only the mucosa lining the middle ear cavities. In the other the disease is not so restricted, but involves the underlying bone. From the latter form the serious complications may develop, and for this form, therefore, radical surgical measures may be warranted.

The question of importance is how to differentiate between these two types. The history may be an important item. With few exceptions, when in a patient in middle life, caries or cholesteatoma is detected the discharge can be traced to an otitis media that developed in childhood, often as a complication of scarlet fever or measles. It is, however, true that most cases of chronic suppurative otitis media occurring as a sequel of these two diseases are not complicated by caries or cholesteatoma, but constitute the type involving simply the mucosa.

Careful examination of the discharge will reveal important diagnostic data. Profuse discharge is no indication of serious disease. In many of the most serious cases the discharge may be very slight. When the disease is of the mucosa only, the discharge is stringy and mucous like, whereas in the bone invading disease the mucous like character may be entirely wanting and one may be able to make out a granular residue which sinks to the bottom of the receptacle, or one may recognize the white flakes characteristic of cholesteatoma. An offensive ordor that persists in spite of cleansing and antiseptic applications is often found in a bone invading process. The odor is particularly foul when there is extensive cholesteatoma. The size of the perforation in the drum membrane is of no particular significance. A marginal perforation which extends to, and involves the bony rim indicates at once that caries exists at that point. The caries may be restricted to that point, and does not constitute a serious menace. In all cases, however, in which a serious menace does exist because of caries a marginal perforation is found. Cholesteatoma is by far the most serious process that may develop in the temporal bone in connection with chronic suppuration. The invasion of epidermis, from which cholesteatoma develop, cannot take place from an ordinary centrally located perforation, no matter how large. The perforation must be such as to produce a smooth pathway. This necessary condition is fulfilled by a marginal perforation. It is only when the conclusion is reached that the caries extends beyond the confines of the tympanum to the attic, the aditus or the antrum that one is warranted in concluding that the menace of a possible complication exists. Where cholesteatoma formation has occurred and conditions are such that it cannot be properly removed by local measures it constitutes an indication for radical operation.

It happens at times that we find a healed chronic suppuration in one ear with destruction of hearing, whereas in the other ear there is a persistent discharge, but with preservation of hearing on which the patient has to rely. In such cases one must be slow to advise operation. Occasionally operation results in improved hearing. In the great majority of instances, however, depression of hearing ultimately results. Operation should be done on ears on which the patients rely for hearing only when the symptoms clearly indicate that there is serious menace of impending complication, and then some modification of the radical operation should be undertaken which leaves the tympanic structures intact.

In regard to local treatment. No form of local treatment can be expected to cure a discharging ear in which the indications for radical measures exist. The persistence of discharge after prolonged local treatment is not in itself indication for operative interference. There are a few facts that must always be observed if results are to be obtained by local treatment.

First, the fundus of the canal must be cleansed of all accumulation of detritus.

Exuberant granulations and polypi must be removed. Irrigation should be used only when it is found difficult to cleanse the canal by dry measures. The dry wick treatment is not satisfactory as it only confines the discharge, unless changed at such frequent intervals as to make it impractical.

Of the various local measures the author feels that none is superior to simple cleansing followed by the use of boro-alcohol, and eventually insufflation of dry powdered boric acid. The latter especially, if there is a large central perforation. The use of mercurochrome possesses no advantage, and the stain is objectionable. Therapeutic rays, zinc ionization or instillation of ether may be used, but where operation is indicated none of these local measures will prove curative and none have any definite advantage over simple cleansing, use of boro-alcohol and insufflation of boric acid powder.

PEDIATRICS

By John M. Lee, M.D.

Doctors Building, Nashville

The Use of Phenobarbital in Infant Feeding. Orville Barbour, M.D., Archives of Pediatrics, January, 1931.

Sauer, Barnett, and Barbour have published reports of the use of phenobarbital in babies with pylorospasm, colic and vomiting. Aldrich thinks these symptoms due to overactivity of the vagus, resulting in spasm of the smooth muscle. Phenobarbital lowers the tone of the smooth muscle. Atropine relieves some of these cases by paralyzing the vagus nerve endings and cutting off abnormal impulses, but is liable to produce a fever or rash. The tolerance of infants to phenobarbital is more constant than their tolerance to atropine. An overdosage of phenobarbital merely puts the baby into a sound sleep for a time.

The case histories of six cases representative of seventy-six patients in whom phenobarbital was used are reported. The outstanding symptoms in these patients were colic, vomiting, abdominal distention, and crying. While under the influence of the drug these babies retained their food, were comfortable, slept normally and thrived.

One-fourth grain every four hours before the feedings seemed to be the satisfactory dose. If the patient seemed drowsy or stuporous, the dose was reduced to one-eighth grain every four hours. After a period of relief from symptoms the frequency of administration was gradually decreased until the patient no longer required the drug. The author gave phenobarbital to 76 babies for from one to six months, the ages ranging from one week to eight months. Drowsiness was the only reaction noted. No drug rashes were noted, careful observation of the urine showed no damage to the kidneys, and there was no tendency to habit formation. No deleterious effects either physical or mental were observed. In the type of cases cited, the author thinks phenobarbital more effective than atropine.

SURGERY — GENERAL AND ABDOMINAL

By John L. Dies, M.D.

1213 Exchange Building, Memphis

Fractures of the Patella. Jones, R. Watson. The British Medical Journal, 3640. Pg. 592-594. October 11, 1930.

Although fracture of the patella was one of the first bone injuries to come within the scope of operative treatment, there are still many differences of opinion. Hitherto the discussion has been purely from the point of view of bony union, but if our objective is not simply union of the fracture, but restoration of the joint to normal, and we also consider the recovery of flexion movement, different indications arise.

It may be true that immobilization of a normal knee does not cause permanent stiffness, but if a knee joint is injured, and particularly if an arthritic knee joint is injured, the inevitable penalty of prolonged immobilization in extension is some degree of permanent limitation of flexion. It follows that fractures of the patella demand sufficiently firm operative fixation to render external fixation unnecessary; this is particularly true of the elderly patient. Early movement is essential, and a bandage applied firmly enough to prevent hemarthrosis gives all the post-operative fixation required. The actual date when movements are instituted must be governed by the success of the operative fixation. It is my own practice to test this by flexing the knee before stitching the skin. If the fragments are firmly held, assisted movement is commenced the following day. If the fracture is comminuted and fixation imperfect, movement is deferred until the fourth week, and is preceded by gentle flexation of the joint under anaesthesia deep enough to insure perfect relaxation of the quadriceps. With a fully relaxed quadriceps, manipulation is quite safe during the first four weeks. Within that time the adhesions are still light, they offer no resistance, and give away to the mere action of gravity unaided by any pressure on the part of the operator. On the other hand, I regard manipulation at any between the fourth and twelfth weeks as very unsafe.

If the necessity of early movement is accepted, it becomes obvious that operation is essential, that the bone must be sutured as well as the lateral expansion, and that the suture material must be strong. Cat gut and kangaroo tendon are not sufficiently strong, and silver wire is notoriously unsafe and liable to snap. Piano wire on the other hand, is much less fragile, and its flexibility has the further advantage of allowing a knot to be tied. My own preference is for an absorbable material, and thick, braided silk has many advantages. It is extraordinarily strong, will withstand a much greater strain than the contraction of the quadriceps, and is sufficiently elastic not to snap; it can be secured in any length, is easy to work with, and can be tied in a knot which, owing to the roughness of the braided surface, will not slip.

The method of inserting the suture is of considerable importance because the operation must not only prevent vertical separation of the fragment, but must also restore a smooth articular surface and prevent tilting of one fragment on the other. The patellofemoral joint is non-weight-bearing, but we know from the analogy of upper-limb joints that the constant movement of rough, irregular surface will produce arthritic change, even in the absence of weight bearing. Approximation should, therefore, be absolutely accurate; by fitting the fragments carefully together not only is fixation augmented and union accelerated, but osteo-arthritis is avoided. For this reason the more quickly operation is performed the better, and the practice of delaying operation for ten to fifteen days to allow absorption of extravasated blood must be relegated back to the days of unreliable asepsis. I usually drill each fragment horizontally, and use two pieces of thread passed in opposite directions so that they can be tightened simultaneously on either side of the bone. This allows a much more accurate and close approximation than a single suture, which is tightened on one side only. Accurate centering of the drill holes will usually prevent tilting of the fragments when the suture is tightened, but if it is feared that tilting may recur during the early days of movement, a square stitch may be used in which the two horizontal strands prevent vertical separation, and the two vertical strands prevent tilting.

The objective of early movement demands rapid healing of the wound. Forty-eight hours' skin preparation, complete screening of the skin at operation, "no touch" technic, and careful skin suturing are all essential. The crescent-shaped incision should never be used.

Recovery can not be regarded as complete until the quadriceps is fully redeveloped. For this purpose the most complicated of gymnastic machines and of electric batteries cannot equal the patient's own efforts.

Fascia lata has an excellent application in the repair of avulsion of the ligamentum patellae from the lower pole of the patella.

In this injury the intact patella is pulled away from the ligament and is displaced up into the thigh by the tonic contraction of the quadriceps. It is notoriously difficult to suture the vertical ligamentous fibers to the bared pole of the bone, which is held up in tension. It may be quite impracticable, and instead of suturing the patella to the ligament, it must be anchored to the tibia in some other way. The fascia lata already has tibial insertion, and it is a very easy matter to take a strand from its thickened anterior margin still attached by one to the tibia, pass the other end through a drill hole in the apex of the patella, and pull on it until the bone is down to its normal level. The fascia may then be stitched to itself through a tunnel in the tibia.

Exactly the same injury may occur at the upper pole of the patella, and the whole bone may be torn away from the quadriceps insertion. The injury is not a common one, and my own series includes only five cases, of which one was bilateral. It is frequently overlooked because at first there is no x-ray change. The clinical signs, however, are exactly those of fracture of the patella, and an even more serious disability arises in untreated cases.

The injury involves mainly the insertion of the vastus internus and the curreus, and the muscles detach the aponeurotic covering of the patella with an underlying layer of one cells. Within a few weeks new bone is deposited, and, since the muscles retract, ossification may occur above the patella for two or three inches. Subsequent x-ray examinations show gradual condensation of the new bone and all the changes characteristic of myositis ossificans. If the knee is immobilized in extension, the new bone may remain attached to the patella; but if, without first suturing the aponeurosis, forced passive movements are carried out, the bone cells are still further separated from the patella, and large masses of free bone are produced.

The term "myositis ossificans" of the quadriceps is an entire misnomer; the process is purely traumatic and mechanical and in no sense inflammatory. Far from being an inevitable complication of knee injuries, it is entirely avoidable by suturing the quadriceps back to the bone.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,
and F. K. Garvey, M.D.
Medical Building, Knoxville

Observations on the Treatment of Syphilis of the Liver. Paul O'Leary, M.D. A. M. A., January 17, 1931.

It has been shown experimentally that 10 per cent of hepatic tissue can carry on the normal functions of the liver. Likewise it was shown that the hepatic cell has a 100 per cent regenerative ability. This regenerative ability is interfered with if the portal blood is diverted or if obstructive jaundice or toxic cirrhosis is present. The major portion of the liver must be destroyed before symptoms of dysfunction appear.

The data in this paper is based on the study of 140 patients suffering with syphilis of liver. The diagnosis in 31 was made at operation. The remainder was made on clinical findings, and laboratory data. All cases due to arsphenamine jaundice are omitted.

Acute hepatitis may occur either in the acute stage of syphilis, or as a hepato-recurrence. Occasionally acute yellow atrophy is the result. The milder form of acute hepatitis is especially transient. Diagnosis is suggested by nausea, vomiting, and edema. The liver is large and tender, later becomes small and ascites appears. Spirochaetes are easily demonstrated in the liver tissue. Arsphenamine is clearly contraindicated in these cases. The prolonged use of mercury, and the iodides offer the best result.

Of the 31 early cases diagnosed at operation 9 are dead. The results of treatment of diffuse hepatitis showed mercury and iodides to be of great value. Four patients in this group, who received no treatment, showed no evidence of cirrhosis over a period of ten years. Intensive use of the arsphenamines three cases resulted in cirrhosis in all.

A diet, high in carbohydrates and sugars, mercury and iodides are the fundamentals in the treatment of early cases. The use of diuretics such as ammonium nitrate, ammonium chloride, and mersalyl will often obviate paracentesis; surgery is occasionally indicated. Death most often resulted from esophageal varix.

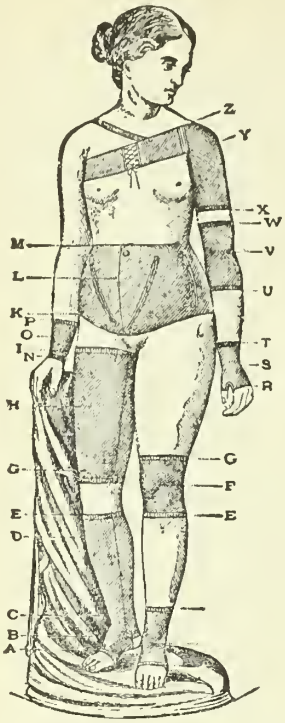
Tests of liver function are often of aid in estimating the result of treatment. In gumma of liver, however, these tests are valueless.

The blood of these patients usually remains Wasserman fast.

This paper is discussed by Drs. Wile, LeWald, Eusterman, and others.

CORRECTED ROLL OF COUNTY SOCIETIES

County	President	Secretary	Meeting Date
Anderson	W. L. Carden, Andersonville	J. S. Hall, Clinton	1st Mon., 2 P.M.
Bedford	T. H. Woods, Bell Buckle	W. H. Avery, Shelbyville	3rd Thurs,. 2 P.M,. Dr. Ray's office.
Benton	See Carroll County		
Blount	E. H. Lowe, Maryville	J. A. McCulloch, Maryville	Thurs, 8 P.M., First Nat'l Bank Bldg.
Bradley	W. H. Sullivan, Cleveland	E. R. Ferguson, Cleveland	1st and 3rd Thurs., 7 P.M., Court House
Campbell	L. M. Scott, Jellico	F. A. McClintock, Newcomb	4th Thurs.
Carroll	H. T. Collier, McKenzie	A. C. Ellnor, McKenzie	Carroll, Weakley, Benton, Henry, 2nd Tues., Hotel Lynn, McKenzie.
Carter	Paul S. Williams, Elizabethton	E. T. Pearson, Elizabethon	1st Tues., 7:30 P.M., First Nat'l Bk. Bldg.
Cheatham	W. S. Lockert, Ashland City	P. L. Pitt, Ashland City	
Chester		J. D. Anderson, Henderson	With Decatur and Henderson, 2nd Tues.
Claiborne	See Hancock County		
Clay	See Macon County		
Cocke	J. A. P. Shields, Hartford	J. E. Hampton, Newport	1st Tues.
Coffee	E. P. Vaughan, Manchester	C. E. Evans, Tullahoma	1st Thurs.
Crockett	See Dyer County		
Cumberland	E. W. Mitchell, Crossville	V. L. Lewis, Crossville	With Overton, White, 3rd Thurs.
Davidson	T. G. Pollard, Doctors' Building	N. S. Shofner, Doctors' Bldg.	Every Tues., 8 P.M., Doctors' Bldg.
Decatur		J. L. McMillan, Decaturville	(See Chester County).
Dickson		R. P. Beasley, Dickson	
Dyer, Lake, C'ckett	E. S. Hopper, Alamo	E. H. Baird, Dyersburg	1st Wed., monthly.
Fayette		J. W. Morris, Somerville	Fayette-Hardeman, 1st Thurs.
Franklin	L. A. Templeton, Winchester	Jno. P. Grisard, Winchester	Last Fri., 7 P.M., Court House.
Gibson	G. C. Bryant, Milan	F. L. Roberts, Trenton	
Giles	F. C. Gaines, Pulaski	T. F. Booth, Pulaski	4th Thurs., Citizens Bank.
Greene	L. E. Coolidge, Greeneville	M. A. Blanton, Mosheim	2nd Tues., 6:30 P.M.
Hamilton	John B. Haskins, Med. Arts Bldg.	S. F. McIntosh, Volunteer Bldg	Each Thurs., 8 P.M., Manufacturers' Ass'n Bldg.
Hamblen	S. M. Ryburn, Morriston	P. L. Henderson, Morristown	
Han'k, Cl'b'ne, U'n		J. H. Carr, Maynardsville	2nd Mon.
Hardeman	See Fayette County	J. Y. Alexander, Middleton	1st Tues., each quarter, Bolivar.
Hardin, Lawrence, Lewis, P'ry, W'yne	J. H. Pickard, Hohenwald	C. C. Stockard, Lawrenceburg	Last Tues.
Hawkins		J. S. Lyons, Rogersville	
Haywood	G. G. Mulherin, Brownsville	J. L. Edwards, Brownsville	Last Tues., 7 P.M.
Henderson		J. F. Goff, Lexington	(See Chester County).
Henry	R. G. Fish, Paris	A. A. Oliver, Paris	(See Carroll County).
Hickman	J. S. Beasley, Centreville	W. K. Edwards, Centreville	
Humphreys	J. T. Cooley, Waverly	W. W. Slayden, Waverly	
Jackson	C. E. Reeves, Gainesboro	L. R. Anderson, Gainesboro	1st Fri., Court House (See Macon County).
Jefferson		B. M. Tittsworth, Jefferson City	
Johnson	See Sullivan County		
Knox	Ralph Monger, Medical Bldg.	Jesse C. Hill, 4323 Lyons View Pk.	Every Tues., 8 P.M., Medical Bldg.
Lake	See Dyer County		
Lauderdale	G. A. Lusk, Ripley	W. C. Sanford, Ripley	2nd Thurs.
Lawrence	See Hardin County		
Lewis	See Hardin County		
Lincoln	D. T. Hardin, Fayetteville	L. L. Sheddan, Fayetteville	
Loudon	W. H. Harrison, Loudon	J. G. Eblen, Lenoir City	1st Thurs., Loudon; 3rd Thurs., Lenoir City, 7 P.M.
Macon	M. H. Allen, Lafayette	P. East, Lafayette	1st Wed. each quarter.
Madison	W. B. Eason, Jackson	B. C. Arnold, Jackson	1st and 3rd Tues., 7:30 P.M., Y.M.C.A.
Marshall		J. A. Hardison, Lewisburg	4th Thurs.
Maury	J. S. Covey, Culleoka	W. E. Black, Columbia	2nd Mon., 11 A.M., Elk Lodge Room.
Monroe	P. E. Parker, Sweetwater	H. M. Kelso, Madisonville	2nd Tues.
Montgomery	J. H. Ledbetter, Clarksville	F. J. Malone, Clarksville	3rd Thurs. night.
Morgan		J. F. Love, Lancing	
McMinn	J. R. Nankivell, Athens	C. O. Foree, Athens	2nd Thurs., 2 P.M. Dr. Nankivell's office.
McNairy	R. H. Hendrick, Selmer	H. C. Sanders, Selmer	3rd Thurs.
Obion	C. B. A. Turner, Union City	F. B. Kimzey, Union City	
Overton	See Cumberland County	A. B. Qualls, Livingston	3rd Fri.
Perry	See Hardin		
Polk	T. J. Hicks, Copperhill	F. O. Geisler, Isabella	
Putnam	H. T. Taylor, Cookeville	C. P. Martin, Cookeville	1st Thurs., 1:30 P.M.
Roane	J. Morgan Clack, Rockwood	W. W. Hill, Harriman	1st and 3rd Tues., 1 P.M., Red Cross Rooms.
Robertson	S. J. Fentress, Goodlettsville	W. F. Fyke, Springfield	3rd Tues.
Rutherford		J. A. Scott, Murfreesboro	
Scott	M. E. Thompson, Oneida	D. M. Woodward, Oneida	2nd Wed.
Sevier	Ashley W. Ogle, Sevierville	R. J. Ingle, Sevierville	1st Mon., 7 P.M., 1st Nat'l Bank Bldg.
Sullivan	T. B. Yancy, Kingsport	H. S. Smythe, Bristol	1st Fri.
Shelby	J. B. Blue, Col. Tower Bldg.	A. F. Cooper, Bk. of Com. Bldg.	1st and 3rd Tues., Medical Arts Bldg.
Smith	R. E. Key, Monoville	Thayer S. Wilson, Gordonsville	1st Fri.
Sumner	L. M. Woodson, Gallatin	J. R. Parker, Gallatin	
Tipton	G. B. Gillespie, Covington	L. J. Lindsey, Covington	
Unicoi	R. E. Stack, Erwin	J. R. Moody, Erwin	Every other Thurs.
Union	See Hancock County		
Warren		Jno. S. Harris, McMinnville	1st Wed., 1:30 P.M.
Washington	A. J. Willis, Jonesboro	C. W. Friberg, Johnson City	2nd Thurs. at noon, Hotel John Sevier.
Wayne	See Hardin County		
Weakley	T. B. Wingo, Martin	J. E. Taylor, Dresden	3rd Wed., May, Aug., and Nov., at Martin; also see Carroll County.
White	A. A. Bradley, Cookeville, R.F.D. 5	S. E. Gaines, Sparta	2nd Thurs., Dr. Gaines' office. See Cumberland.
Williamson	J. W. Greer, Franklin, R. 2	K. S. Howlett, Franklin	2nd Tues.
Wilson	L. D. Cotten, Alexandria	J. R. Bone, Lebanon	Thurs. after 1st Wed., 2:00 P.M.



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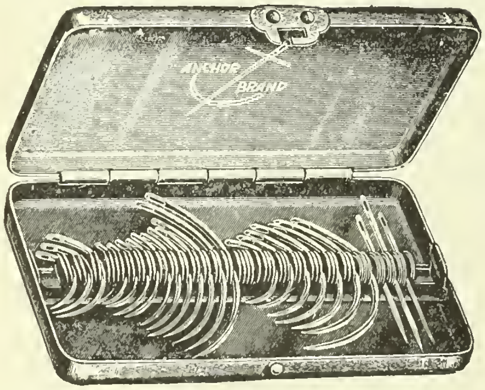

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THE UTERINE BLEEDING OF MIDDLE LIFE*

EMIL NOVAK, Baltimore, Md.

UTERINE hemorrhage occuring at or near the middle period of life is, of course, governed by the same principles which are concerned at other periods. It is, however, given a rather special interest and importance because of the frequent incidence of cancer at this time of life, and the consequent necessity of excluding this, the dreaded cause of so many menopausal hemorrhages. The term "menopausal" is, of course, used in a very broad sense as referring to the entire middle period of life, and not to the shorter period represented by the menopause itself.

The two chief factors concerned in uterine hemorrhages are anatomic or structural disease and disturbances of function. The former is well illustrated by cancer, in which the bleeding is easily understandable as produced by actual destruction of tissue and opening up of blood vessels. The mechanism of uterine bleeding here is as simple as is that of the rectal bleeding with rectal cancer, or the haematemesis of stomach cancer. On the other hand, uterine bleeding may occur in the entire absence of any demonstrable structural disease, and in such cases is explainable by disturbances of function. In still other cases, a combination of the two factors appears to be concerned, as with ectopic pregnancy, many cases of chronic pelvic inflammatory disease, certain ovarian tumors, etc.

In the middle period of life, one may encounter almost any of the usual causes of abnormal bleeding, such as incomplete abortion, benign polypi, myomata, tubal disease, or ovarian tumors. In most of these cases the cause is either quite obvious or can be easily enough arrived at. Special interest and importance, however, attach to the types of bleeding produced by cancer and by functional disease, because both are rather characteristically associated with this period of life, and because of the fact that it is not infrequently necessary to differentiate between them. The importance to the patient of such a differentiation need not be stressed. It is to these two forms of menopausal hemorrhage, therefore, that I shall limit the present discussion.

CANCER OF THE UTERUS

The subject of uterine cancer has been so strongly stressed in both medical and popular literature that one almost hesitates to bring up once more its vital importance as a gynecological problem. As an extenuation one can point to the fact that women are still being sacrificed to this disease by the thousand each year, and, what is more important, that thousands each year are still applying for treatment at stages far beyond what could be called early and reasonably hopeful. It would be absurd to urge that the present sad state of affairs could be entirely cleared up by any amount of education of both the public and the profession as regards the importance of early recognition of the disease. Some cases of cancer are so malignant that a woman is doomed even though the disease be recognized early. Again, the early course of the disease may, in some types, be so latent that even an intelligent and alert woman may notice no warnings until fatal extension of the disease has occurred. Moreover, the rapidity with which metastasis occurs is so variable that one may well wonder what constitutes an "early case", for a small initial lesion may have already undergone metastasis, while a larger and presumably less favorable one may not. Finally, the same variability is seen with regard to the response from the various forms of treatment, whether surgical or radiotherapeutic.

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*Read before the Nashville Academy of Medicine, Nashville, Tenn., October 27, 1930. From the Gynecological Deapartment of Johns Hopkins Medical School.

All these things being conceded, the fact still remains—and it is the one big fact upon which the whole campaign of popular and professional education is based—that, taken by and large, the outlook in cancer cases is far better when proper treatment is instituted early than when it is begun late. Almost the only contribution which the profession can make to the public in the present state of our knowledge, aside from the routine methods of treatment, is the constant re-emphasis of this accepted fact. Popular education can be carried out in a wrong or in a right manner. Even under the best circumstances there will be an inevitable and deplorable backwash of such unpleasant results as cancerphobia. But people do not die of cancerphobia and they do die of cancer. Furthermore, if the education is properly administered, such unpleasant by-products can be kept down to a minimum.

Three great national oragnizations are now engaged in this great movement of popular education, viz.: the American Society for the Control of Cancer, the American Medical Association, and the American College of Surgeons. With all three, the educational policy is guided by medical men who are thoroughly cognizant of the risks as well as the advantages of such education, so that all are worthy of our united support and individual emulation. For, after all, no form of education is as sound and far-reaching as that which can be carried out by the individual physician to the individual patient, with whose needs and psychology he is thoroughly familiar. When every consultation becomes a prophylactic one, so to speak, a great step will have been taken, but in the meantime there is, no doubt, a real place and need for mass education of the proper sort.

As with malignant disease elsewhere, there is a stage extending from its very inception to a point at which symptoms begin to appear. There are perhaps a few cancers—though very few—which are so malignant that the woman may not have a chance, for she is virtually doomed before being given warning at all by bleeding or other symptoms.

Far more often the fatal delay occurs in the stage between the first appearance of ominous symptoms and the examination by the physician. It is a shortening of this stage which is the desired goal of the campaign of popular education. Results have already begun to show themselves in the greater proportion of patients reporting for examination in a comparatively early stage of the disease.

The third stage of the disease is the one comprising the period between the first medical examination of the patient, usually by her family doctor, and the institution of proper treatment. It is this stage which I shall emphasize in this paper, for it is the one for which we, as medical men, are directly responsible. There is probably no doctor nowadays who does not know that abnormal bleeding or discharge at middle life may mean cancer. And yet there are unfortunately many who, not from ignorance, but from a peculiar apathy, or else a lack of thoroughness, delay in seeing that proper treatment is instituted at the earliest possible moment.

No physician, except the very few who are hopelessly unconscientious, will fail to make at least a simple pelvic examination in women with suspicious symptoms. Again, probably no physician will fail to recognize advanced cancer if the disease is located in the cervix, as it usually is. In such cases, the examining finger will at once encounter a large friable cauliflower mass, or else will reveal an eaten-out crater-like ulcer. Diagnosis in such cases is distressingly easy, but the point is how much good it will do the patient, for she is almost certainly doomed anyhow.

On the other hand, suppose the physician finds no such lesion as that described above, or perhaps no lesion of the cervix at all. In the latter case, especially if the bleeding has occurred in a woman who has already passed the menopause, he should at once suspect cancer within the uterus, where it cannot be felt, i.e., adenocarcinoma of the body or cervix. Under these circumstances he should explain to the woman, in simple and unalarming fashion, the importance of clearing up the doubt by diagnostic curetting and microscopic examination. Few women will object to this, and, if cancer is found, they will be richly rewarded, especially if the malignancy is in the fundus, as it most often is in such cases. Cancer of this variety gives extremely favorable results if operated on reasonably early, and even in some fairly advanced cases.

Again, if the cervix, instead of the advanced lesions above described, presents only an indurated area on one or other lip, or if there is an area of eversion or erosion covered by fine sprout-like growths, with perhaps some superficial ulceration and such vascularity that it bleeds on slightest touch, the plan of action adopted by the physician will determine whether or not he is alert and intelligent. If not, he will assure the patient and himself that there is nothing seriously wrong because there is no cauliflower growth and no crater ulcer, which he may have been taught years ago to be distinctive of cancer. In the same way he had been taught that the symptoms of appendicitis are abdominal pain, distention of the abdomen, obstinate vomiting, hippocratic facies, rapid pulse, and high fever—symptoms which we recognize as those of the late stages of peritonitis so often complicating appendicitis.

If, on the other hand, the examining physician is intelligently alert, he will know that in its earlier stages cancer assumes just the picture I have above described, and he will not be happy until the question is definitely settled. He will in some cases be unable to do this by merely looking at or feeling the cervix, nor, for that matter, can even an expert gynecologist do this in every case. But, in practically every instance, the matter can be decisively settled by clipping out a piece from the most suspicious area and examining it microscopically. If this biopsy, so-called, reveals no cancer, the patient can go on her way rejoicing and the doctor can feel that he has handled a diagnostic problem as it should be handled. If, on the other hand, definite cancer is shown, the patient ought to have a good chance for cure, at least a fifty-fifty chance in the earliest group, whether radium or operation be selected.

This plan is certainly much more intelligent than that of taking a chance that the lesion is probably benign, and thus allowing a patient to let the golden moment slip by. And it is certainly better than the plan of doing radical operations, or resorting to radium therapy, on suspicion alone.

It cannot be too strongly emphasized, however, that the biopsy must be done properly, and, above all, that the microscopic examination be made by someone who is really qualified to pass upon tissues removed from this region of the body. Otherwise, more harm than good may result from it. This point needs double accentuation because of the rather specialized nature of the pathologic pictures encountered in the uterus, and especially in the cervix, so that even an excellent general pathologist may go wrong rather easily in this field. There are, for example, certain peculiar and very common inflammatory pictures encountered in the cervix which have often been mistaken for cancer. I have discussed this whole question fully, from the pathologic and clinical aspects, in a recent paper, to which the reader is referred for fuller details. (1)

As to the treatment of cancer, once it has been definitely diagnosed, only the briefest summary need be given in this paper. With regard to cervical cancer, radium has, of course, changed completely the plan of treatment. Formerly the only decision the gynecologist had to make was as to whether or not the cancer was operable, i.e., whether a radical operation could be done without too much risk to the patient and with at least some chance of permanent cure. When the use of radium was begun, it was at first only as a palliative measure in surgically hopeless cases. Some of these were much retarded, although, in the early days of radium technique, some were definitely harmed. Occasionally, however, a permanent cure was reported even in quite advanced cases.

It was natural, therefore, for the use of radium to be extended to cases not so apparently hopeless, i.e., to only moderately advanced or borderline cases. An even greater proportion of good results was obtained, so that, in more recent years, the field of radium therapy has been so much extended that in many of the best clinics in the world surgery has been entirely abandoned in the treatment of cervical cancer. There are many hospital internes today who have never seen a radical panhysterectomy for cervical cancer.

The results of this plan appear to have justified it fully, indicating that in those earlier, operable cases radium yields just as large a proportion of cures as surgery, without the inevitable primary mortality of the latter. On the other hand, the total number of reports upon the five-year results in the treatment of these early cases is not yet large, so that there are still many gynecologists who advocate radical operation upon early cases if the patient is a favorable subject for operation. This position, it seems to me, is a rational one only if the following conditions are fulfilled: (1) the cancer should be in a really early stage; (2) the patient should be in excellent condition, i.e., she must not be too old or too obese, and she should be free of any organic disease; (3) the surgeon should be really expert in the performance of the radical operation for cancer of the uterus. If these conditions be not present, a patient will certainly have a better chance for permanent cure, with least immediate danger, by radium than by surgery.

As far as cancer of the uterine body is concerned, the practice is quite the reverse, for here radical operation is preferred to radium unless there is some definite contraindication to surgical procedures. The reason for this is the fact that surgery has given excellent results in this field, and that radium cannot as yet be said to have proved its equality, much less its superiority, in this respect. It is only fair to say, however, that with improved technique, some radiologists have achieved very satisfactory results in the treatment of corporeal cancer, so that it is not impossible that here also the aggressive radiologist will displace his surgical confrere. For the present, however, the majority of gynecologists still advocate surgical operation as the method of choice in this field.

After all, however, it is not the method of treatment which determines the fate of the patient nearly so much as the factor of the stage of the disease at which treatment is instituted. Neither radium nor surgery gives results in advanced cases, while either yields comparatively favorable results in early cases. The moral is plain here, as in the treatment of cancer in any region. We must try to increase our proportion of early cases (1) by educating women as to the possible significance of abnormal bleeding or discharge beyond the age of thirty; and (2) by thorough examination of every woman who presents herself with suspicious symptoms.

Finally, in this examination, we should lay aside our old concept of the lesions of cervical cancer, for the cauliflower growth and the foul crater ulcer of the text-book are really pictures of late and almost hopeless cancer. Rather should we familiarize ourselves with the picture of early cancer, and of those lesions which on examination can only be considered suspicious. It is in these groups that we have every right to expect an excellent proportion of permanent cures.

FUNCTIONAL MENOPAUSAL BLEEDING

As has already been indicated, there is a type of bleeding in which even the most thorough pelvic examination may reveal no abnormalities of the organs, so that cases of this type were formerly spoken of as "idiopathic." With the more recent advances in our knowledge of the normal and pathologic physiology of the reproductive cycle, evidence has accumulated to indicate that these cases exemplify perversions of the normal physiology of menstruation. It would be trite to urge that a proper appreciation of these abnormal cases presupposes a working knowledge of the normal physiology and histology of the menstrual cycle, concerning which so much new information has been made available in the past few years. As I have discussed these newer developments in extenso in a recent paper,(2) I shall not review them here.

Bleeding of the functional type occurs at any age during the reproductive epoch, but perhaps most characteristically at or shortly after puberty, and at or shortly before the menopause. The menopausal type, however, is by far the most frequent variety, and certainly the most important, because of the fact that it so often comes into diagnostic conflict with cancer.

The diagnosis of these cases is easily made by curetting and microscopic examination, and it cannot be positively made in any other way. The microscope, in cases of this group, almost invariably reveals a picture designated as hyperplasia of the endometrium, the characteristics of which I have fully described in several previous publications.(3) Suffice it to say that it is characterized by an increase in the number of both the epithelial and stromal elements, and that the most important diagnostic feature is what I have designated as a Swiss cheese pattern of the glands. Some of the latter are large and cystic, others very small, giving rise to a distinctive pattern not to be mistaken, on the one hand, for any of the normal phases of the menstrual histological cycle, or, on the other hand, for any form of malignancy.

The question at once suggests itself as to why we speak of this type of bleeding as functional if it is associated with such a definite endometrial lesion. The answer is that the endometrial condition is just as definitely a mere response to a disordered ovarian function as are the widely varying normal cyclical changes in the endometrium to a normal ovarian function. This is not a mere hypothesis, for it can be supported by convincing evidence, as I have shown elsewhere.(3)

In some of these cases the endometrium is enormously overgrown and perhaps polypoid, constituting the condition which has often wrongly been designated as "polypoid endometritis." Genuine endometritis, as a matter of fact, almost never assumes a polypoid form. When such enormous polypoid overgrowth exists, the curette may bring away large quantities of the tissue, so that, if the patient be of the cancer age and if the surgeon is unfamiliar with the gross appearance of benign and malignant lesions of the endometrium, the generative organs may be needlessly sacrificed under the wrong diagnosis of adenocarcinoma of the body of the uterus. In other cases the endometrium may show little or no gross overgrowth, but the microscopic pattern is the same.

I have been led to stress this particular type of benign endometrial disease not only because of its great frequency and obvious importance, but because of the fact that its recognition has not by any means become general. Little will be found on the subject as yet in many otherwise excellent text-books, for text-books are notoriously a lap or two behind the real line of progress. It can be seen at once that if the cervix is normal and no intra-pelvic pathology can be demonstrated by careful pelvic examination, i.e., if the bleeding is of endometrial origin, the cause can be revealed only by diagnostic curettement. Most important is the microscopic examination of the tissue removed. It is unsurgical and often dangerously culpable to omit this, for often the treatment is entirely contingent upon the pathological findings.

I have discussed the treatment of functional bleeding at various ages fully in the articles to which I have already alluded. Suffice it to say that, once the functional nature of uterine bleeding is established, its further treatment in women at the menopausal age is simple and effective. Such women have lived their reproductive lives, so that the question of further pregnancies rarely need be considered. The proper procedure, therefore, is to bring about a cessation of ovarian function, not by operation, but by radiotherapy. Either radium or x-ray can be utilized. The former is perhaps more precise and certain, but requires short hospitalization and usually at least a gas anaesthesia. I have, therefore, more frequently employed the x-ray treatment, which yields results equally satisfactory. In most cases the menstrual function is prematurely abolished, although in some, after a variable time, it may again reassert itself. If it does, and if it is excessive, another series of x-ray treatments will ordinarily bring about permanent disappearance. It is in the treatment of these functional hemorrhages that radiotherapy has perhaps its most brilliant gynecological application.

Great interest attaches to the possibilities of organotherapy in the treatment of this exceedingly frequent and important menstrual disorder, more particularly in young women, in whom radiotherapy is undesirable, except as a last resort. The characteristic ovarian finding in these cases is an absence of the corpus luteum and a persistence of the Graafian follicles. There is little doubt, in view of recent studies, that the underlying functional disorder is an abnormal amount and persistence of the follicle hormone and an absence of the corpus luteum hormone. These two hormones of the ovary are in some respects supplemental, in others antagonistic. It would seem, therefore, that a rational plan of treatment would be the use of the corpus luteum principle.

Unfortunately, the active principle of the corpus luteum had not been clearly worked out until the recent contribution of Corner and Allen.(4) Even now, Progestin, the name given to this principle by these investigators, is not available in any form suitable for clinical use. When it is, I believe that it may be possible to control functional bleeding of the type under discussion without the necessity, now frequent, of repeated curettage or radiotherapy.

A still more promising possibility presents itself in the remarkable recent studies upon the functional relation of the anterior pituitary to the ovary.(2) The former has been shown to be the "motor of the ovary." Without the anterior hypophysis the ovary cannot function, while the former exerts its powerful cyclical effect upon the genital mucous membranes only through the intermediary agency of the ovary. Furthermore, evidence has accumulated to indicate that more than one hormone is produced by the anterior pituitary. Among these is one which is responsible for luteinization in the ovary, i.e., the conversion of granulosa cells into lutein cells.

The important point is that it is the lutein cells which, in turn, produce the progestin. In other words, if we could give our patients with functional hemorrhage this luteinizing principle of the anterior pituitary we should be able to bring about luteinization in the ovary, with the production of the progestin which such patients lack. This would, indeed, be a more fundamental plan of attack than the mere substitution use of progestin, even if the latter were available.

As a matter of fact, it has been possible to secure a preparation of this anterior luteinizing principle of the anterior pituitary, and in a form which is non-toxic and convenient for clinical use. We have been experimenting with it recently, with most encouraging results, which will be published in the near future. If a satisfactory method of organotherapy can be worked out for these cases, it will confer a great boon upon these cases, for their treatment hitherto has constituted one of the most perplexing and often most distressing problems in gynecological practice.

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THE ROLE OF THE OTOLARYNGOLOGIST IN THE TREATMENT OF ALLERGY*

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THE definition of the word allergy is "a condition of altered susceptibility or reactivity." The following are spoken of by Rowe: (1) as allergic diseases; asthma, hay fever, both seasonal and perennial, some forms of dermatitis, occasionally migraine and epilepsy, angioneurotic edema, and some of the abdominal conditions characterized by indigestion, vomiting, cramps, constipation or diarrhea.

With asthma and hay fever which produce manifestations, symptoms and tissue changes in the respiratory tract am I particularly concerned in this consideration of the abuse of otolaryngological surgical treatment.

It is but human to treat locally a condition which has a local manifestation. The modern conception of allergy is that is is as systematic or as constitutional in nature as is diabetes. It similarly is characterized by a threshold and tolerance. This threshold and tolerance may be battered down and the result be a precipitation of the allergic disease into a clinical entity with the various symptoms, just as a diabetic's sugar tolerance may be lowered. Allergy is no more susceptible to local treatment than is diabetes.

Conservative estimates (2) place the incidence of hay fever at one per cent of the total population, asthma at one per cent or more, and that fifteen per cent of the total population have some of the allergic diseases. During the past two years thirteen per cent of the total number of the patients at the Polyclinic in Memphis have had some of the allergic diseases.

The services of the otolaryngologist, the ophthalmologist and the internist have been sought with indifferent results for the relief of asthma and hay fever. Ephedrine, adrenalin, the opiates and numerous other drugs give but temporary symptomatic relief. Surgery has been turned to for aid, and in a few cases, some degree of relief has been obtained, usually temporary in nature. It has always been distressing and costly to the patient in both time and money. There is a preponderance of evidence that a program of elimination from the sufferer's environment, when possible, of the offending allergens and his treatmentment with specific extracts by a capable allergist will bring about results desirable in the majority of cases, and even miraculous in many.

Surgical treatment with its handsome rewards has been inflicted upon our patients before their treatment by the allergists at about the rate of one operation per patient without relief. One patient has had five operations.

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*Read before the Ear, Eye, Nose and Throat Section of the Tennessee State Medical Association, Centennial Meeting, Nashville, April 8, 9, 10, 1930.

Piness and Miller (3), of Los Angeles, in 1925, reported 834 patients with a total number of operations 712. Even in 1912, Todd (4) stated that during each attack of hay fever or pollenosis, swelling of the turbinates takes place, causing defective drainage, secretion occurs, infection is added thereto, and we have present ethmoiditis and sometimes pansinusitis. Piness and Miller (5) write—substitute for or add to the word pollenosis "ingestion of protein and exposure to animal emanations" and we have a rational explanation of the rhinologists procedures. To further quote these two authors, "although the rhinolaryngologist, in view of the present state of our knowledge concerning allergy, would not think of performing an operation during an acute attack of what he knows and recognizes as seasonal hay fever, he persists in operating when the condition becomes chronic, or when there is no seasonal variation. He forgets that the respiratory mucous membrane may respond to foreign proteins ingested through the gastro-intestinal tract at any time of the year or throughout the year in exactly the same manner as to those derived from the pollens coming in contact with the respiratory mucous membranes only during the pollen seasons. Infection in many cases is thus not the primary cause of obstruction to sinus drainage, and as a result amputations of turbinates, straightening of septums, and opening of holes into the bones does not insure a cure of symptoms. The sensitized mucous membrane is still present and the proteins active in producing allergic phenomena in this membrane have not been eliminated.

It is not unexpected, therefore, that a critical examination of operative procedures in the respiratory tract should be productive of such adverse findings as were mentioned in 834 patients who have been under their observation for various manifestations of allergic phenomena of the respiratory tract.

My conception of the role of the otolaryngologist in the treatment of allergy is as follows: First, he should detect in the patient's history or family history certain complaints; second, he should investigate the physical condition to arrive at a diagnosis; and third, he should concern himself with a role secondary to the allergist, that of the extremely conservative part of eliminating those conditions which co-exist in the respiratory tract and which only aggravate, but do not cause the disease.

It is startling that so many of the cases give a positive family history. Eighty per cent of our cases gave a positive family history and it is reasonable to assume that in another ten or fifteen per cent allergy was present but unknown, especially when it was a grandfather with eczema. It may exist in one generation as asthma, in another as hay fever, and in a third as eczema, and may not appear in one generation at all.

Among the complaints in hay fever are coryza, lacrimation, nasal obstruction, itching of the eyes, ears, Eustachian tubes, naso-pharynx, pharynx, roof of the mouth, sneezing, loss of sense of smell and taste, photophobia, puffing of the eyelids, pain in the eyes or back of the head, tinnitus aurium, and according to Phillips (6), malaise, interference with metabolism, pyrexia, chills and prostration.

Asthmatic symptoms occur in about fifty per cent of the hay fever cases. The expiratory dyspnea or wheeze is a familiar sight. It must be differentiated from mechanical obstruction to the lower respiratory tract resulting from large tuberculous tracheo-bronchial lymph-nodes and foreign body, from "thymic" asthma, from early pneumonia, congenital stridor, laryngeal diphtheria, and bronchotetany seen in spasmosphilia.

In both hay fever and asthma, the mucous membrane becomes edematous, usually more severe in certain areas until an outpouching of the mucosa results in definite polyp formation. Edema is relieved by specific desensitization or environmental correction, the polyps are not. They must be removed surgically to relieve obstruction. Only the markedly deflected septums should be corrected. The elimination of infected lymphoid tissue is indicated for the same reasons that it is in non-allergic individuals.

The following case histories are presented:

Case A—Miss N. C., No. 32796. Age 38, examined August 28, 1929.

Chief complaint: (1) Hay fever, seasonal, fall type; (2) Hay fever, perennial, particularly when exposed to dust; (3) Sick headaches.

Family History: Maternal great-grandmother had asthma.

Present History: Until nine years ago the patient enjoyed excellent health. At that time, during the latter part of August, she suffered terribly from headache, blurred vision, swelling of entire face and nose, itching of nose and throat, and watering of eyes and running of nose. She consulted an otologist, was advised that she had sinus trouble, and was operated upon elsewhere for such a condition. In her words, "a pile of bones" was taken out of her nose. She received no relief until a killing frost occurred. These same symptoms continued every year for nine years. It was not until last year that the patient was tested, found sensitive to numerous pollens, foods and animal epithelials. The sinus roentgenogram showed the right antrum cloudy. She received no sinus treatment and would permit no sinus investigation by us other than the x-ray examination. She was desensitized specifically, her environment corrected and in March, 1930, she stated that she had had the best winter she had spent in nine years and had been absolutely free of colds, whereas she had had many colds every winter during the time she did not take treatment.

Case B—Mrs. M., No. 33173. Age 28, examined October 25, 1929.

Chief Complaint: (1) Hay fever, perennial and seasonal; (2) Asthma.

Family History: Mother has perennial hay fever and bronchitis.

Present History: Patient has had perennial hay fever all her life and seasonal hay fever in the fall. She had an attack of asthma in August. Tonsils and adenoids had been removed in 1917. Examination of the ears was negative. Examination of the throat revealed tonsils and adenoids cleanly removed. The nasal examination showed the entire mucosa serum logged; the septum was markedly deflected high to the left with considerable obstruction; both middle turbinates had undergone polypoid degeneration and were pressing tightly against the septum. The roentgenogram of the sinuses showed the right antrum cloudy. She was tested, found sensitive, was desensitized and advised in regard to the elimination of offending materials in her environment. She received no otolaryngological treatment. In December, 1929, the patient stated that she had been relieved one hundred per cent.

Case C—Miss J. F., No. 27808. Age 13. Examined January 17, 1928.

Chief Complaint: Asthma since the age of three.

Family History: Her paternal grandmother had bronchial trouble, but was not definitely asthmatic. She has had a cough for twenty years. One maternal great-uncle had asthma. Her mother has colds which are somewhat asthmatic in type with tightness in her chest.

Present History: Patient has had asthma since the age of three. It is much worse in the winter. She coughs up a lot of purulent material—thick, yellow and odorless. Between her attacks of asthma her nose is stopped up. Last summer she had itching of the nose and eyes, lacrimation and much sneezing. An intra-nasal antrotomy had been done previously with some relief. X-rays of the sinuses were negative. Clinical examination of the nose and throat was negative. Roentgenological examination of the lungs was interpreted by Dr. Heacock as follows: "Hilar shadows with dense (plus 3) infiltration of the lower right bronchial tree with small areas of consolidation, probably bronchiectasis." This patient was treated allergically and improved. X-rays later of the chest revealed a normal chest, a marked contrast to the earlier findings of bronchiectasis.

Case D—V. P., No. 30397. Age 5, examined August 28, 1928.

Chief Complaint: Sneezing attacks and afternoon temperature.

Family History: Father has perennial hay fever. Paternal grandmother has perennial hay fever.

Past History: Health excellent except for the sneezing and afternoon temperature. Tonsils and adenoids removed and both antra were irrigated in July, 1928. He has been sneezing at various intervals for the past two years, and running an afternoon temperature of 99 1-5 to 100 4-5 almost daily. He takes cold very easily and complains of itching in his nose. He had "nettle-rash" at the age of one year which lasted a year. Examination revealed his tonsils and adenoids removed. Boggy turgescent nasal mucosa. Both antra were cloudy and the chest was normal in the roentgenograms. The antra were not treated. Ephedrine was used. He received specific allergic treatment and the offending allergens in the environment removed. He has improved markedly, and the afternoon temperature, which occurred almost daily for two years, has disappeared.

This article is not intended as an argument against otolaryngological surgery on the allergic individual where such surgery is clearly indicated, independent of the allergic state.

I repeat, as I conclude, that the role of the otologist in the treatment of allergic cases should be the conservative one of eliminating those conditions which co-exist in the respiratory tract and which aggravate but do not cause the allergic condition.

(1) Rowe: J. of Lab. & Cl. Med. Oct., 1927, Vol. xiii, No. 1.

(2) Henry, John P.: Progress in Allergy. The Miss. Doctor, Vol. vii, No. 2, p. 8, August, 1929.

(4) Todd, I. C.: Ethmoiditis as a Common Sequel of (never the cause) of Pollenosis (Hay Fever). J. A. M. A. 49: 1090 (Sept.) 1912.

(3) and (5) Piness and Miller: Allergy a Non-Surgical Disease of the Nose and Throat. J. A. M. A. Aug. 1, 1925, Vol. 85, p. 339-340.

(6) Phillips, W. C.: Diseases of the Ear, Nose and Throat. (F. A. Davis Co.) p. 679.

DISCUSSION

DR. D. H. ANTHONY (Memphis, Tenn.): I have enjoyed hearing Dr. Linn's paper and think it is a very important paper to present before our section at this time and I am glad to have the opportunity to make a few remarks in regard to the otolaryngologist in the treatment of allergy because so many allergy patients with nasal and bronchial complaints consult the otolaryngologist first.

I think that the otolaryngologist should keep these pretentious allergy cases under treatment and observation for a short time until he can decide that the patient should be referred to a very competent allergist and request the allergist to make every test that is known and give him a full report on every case, to include all food tests, all pollens and all animal epithelial tests, both dermal and intra-dermal, as he sees necessary to make a positive diagnosis. If you do not make a complete survey of the patient's susceptibility with all the tests known you are going to get so many failures with partial treatment it will be very discouraging to both the patient and the otolaryngoolgist and the allergy treatment cannot be administered thoroughly enough to relieve the susceptible individual. As a rule, a patient is not susceptible to one or two things, but many. As a rule, if a patient is allergic he has some allergy to the three grand groups classified as foods, pollens and animal epithelials or some other less frequent allergens. I understand at present that materials available for testing are as follows: Foods, 120; pollens, 90, and animal epithelials, 50, making a total number of 260 tests available.

When you have decided to send the patient to the allergist I think all local and general treatment should be omitted for several days before the allergy tests are to be made, unless the symptoms are of such urgent nature that treatment will be required while the patient is getting the tests, but this seldom occurs. However, some of these unfortunate susceptible individuals have to be hospitalized or kept at home in bed with a trained nurse to get hypodermics of Adrenalin and Ephedrine by mouth every few hours.

After the otolaryngologist has received his complete report of all the different tests made by the allergist, I think that is the time for the otolaryngologist to be of greatest service to the patient, by local treatment to the nose. The best treatment to the nose locally is spraying and nasal cotton tampons saturated with 1% Ephedrine Inhalant. I believe this Ephedrine Inhalant should be made up with the lightest mineral oil with no camphor, menthol or other agents because the camphor, menthol or other agents are usually very irritating to the mucous membrane.

I believe the patient should spray the nose at home with Ephedrine Inhalant. I find spraying is much better than the use of drops. I have found it is best to instruct the patient to spray the nose with Ephedrine Inhalant, using an Atlas No. 29 spray with the bulb tip removed, then wait fifteen minutes and spray the nose again. This is usually repeated every three hours. The first spray shrinks the inferior turbinates and the second spray shrinks the middle turbinates which you are trying to reach to get the nose to ventilate and drain properly. The Atlas No. 29, I find, gets better results than any other kind of spray because it has a small tip which you can insert deep into the nose.

Aquous solutions of Ephedrine, I find, are very irritating to the mucous membrane and, I think, should never be used. Dilute Adrenalin nasal sprays, I think, should not be used in allergy noses because, as you well know, it lasts only a short time and you do get a secondary engorgement of the mucous membrane and some patients are very sensitive to Adrenalin in the nose.

The majority of patients should take one to three teaspoonsful of Syrup of Ephedrine Hydrochloride, 1-8 gr. to the teaspoonful, every three to four times a day routinely for several days, after which time the syrup can be used when needed.

I think that hypodermic injections of Adrenalin Inhalant should be used principally as a relief of the attack, followed by Ephedrine to prevent oncoming attacks, until the specific allergy treatment can be given sufficiently to control the acute allergy attack.

Eliminative measures in the treatment of food sensitive patients means not cutting down of the food they are sensitive to, but absolutely eliminating the sensitive foods entirely.

Patients with an allergy to pollens from trees and grasses need an individual extract made to suit that patient, and no biological house at present can offer so many combinations to suit every kind of allergy patient, therefore, these extracts are best made by the allergist in your own community.

The perennial type of hay fever caused by animal epithelium can usually be relieved by getting rid of the pets, changing the patient's occupation, and substituting kapok for the use of feathers in the home.

Operative treatment should be very carefully considered after a most complete diagnosis and after the patient has been on a strict allergic, both locally and general, for several months. Of course, if an allergic patient has a primary and secondary infection this focus of infection should be removed soon as possible because this infection will often times cause the allergic individual to be more susceptible to the allergens.

Plan Now

to

Come to Knoxville

April 14, 15, 16

IS IT TWILIGHT OR DAWN?*

G. VICTOR WILLIAMS, M.D., Chattanooga

DURING THS STORMY days of the Constitutional Convention, Benjamin Franklin sat behind George Washington's chair, on the back of which was emblazoned a half sun with gilded rays.

When the session had reached its final outcome Franklin remarked: "As I have been sitting here all these weeks I have often wondered whether I was looking at a rising or a setting sun. Now I know that it is a rising sun."

Noticing the clamor for lessening the high cost of medical care, and the tendency to increase the cost of a medical education and the assaults of Public Health and State Medicine, I am wondering if it is wise to educate our sons for the practice of medicine for at this time it is difficult to know whether it is a rising or setting Medical Sun that we are beholding.

One who has been practicing medicine twenty-five years, coming into the profession at the end of the long coat, plug hat and gold-headed cane era, noticed the physician was considered the leader in his community, a tireless worker, a man interested more in saving humanity than himself; interested in saving life on credit more than in collecting and saving something for his declining years. A man who was imposed upon by having his hours disturbed as patrons at this age would as soon wait until the wee small hours of the night to become alarmed about their sick as to call him at more reasonable hours, as they knew he was so tender-hearted as to not charge them any more than for a day call.

A man who was imposed upon by proprietory drug houses, as they would flood his office and Medical Magazines with false claims for their preparations, and there was no way of checking up on their claims of ingredients.

About this time the council of Pharmacy and Chemistry came into existence and during President Roosevelt's administration the Pure Food and Drug Act was passed, which required the poisonous and narcotic ingredients and alcoholic content, to be placed on the bottle and make lying on the label as to ingredients punishable by fine and jail sentence.

We physicians of the last twenty-five years have had much better roads, phone service and hospitals, and have tried to educate the public to the fact that a physician could not make night calls for the price of day calls, neither could he give as good service in the wee small hours of the night as in the day time when drug stores and laboratories were available.

We have realized that the kind words said of some departed confrere by the public would not educate our children or feed, house and clothe our widow. We have tried to collect a part of our hard earned fees so that we could at least carry some life insurance to take our place when we have made our last call. We have not grown rich or accumulated vast funds or formed monopolies like big business to gamble on the stock exchange, but we have been content on collecting a part of our fees. Big Business, such as manufacturing plants, railroads, street railways and insurance companies have done so well they have passed laws which are undemocratic by forcing their employes to call certain doctors in case of injury, instead of allowing the injured to exercise his inalienable right of choosing his religion and selecting his physician. This subsidizes the practice of medicine not by state medicine, but by contract practice.

While I am not a socialist, I notice that while Big Business has grown fat and fatter and the employees have grown thin and thinner, and while we as physicians have done their family practice, whether they were able to pay us or not for our work in trying to maintain their health, we notice that when there was an accident to the heads of one of these families, where there would have been a cash fee, that the insurance or contract surgeon is immediately called in and the general practitioner is left to continue to uphold the health of the family on credit.

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*Presidential Address read before the East Tennessee Medical Society, Kingsport, May 16, 1930.

This contract practice is a dangerous thing, for have we not seen Big Business, Insurance Companies, want to put their contract surgeons on the ragged edge of truthfulness in some damage cases? We have known cases where when even our local and state medical societies had endorsed certain things as being more democratic, by allowing the injured employee to call his own physician and the insurance company's contract surgeons, have been known to go before our legislature and defeat organized medicine all because they were under Big Business and their heads would be cut off provided they did not mobilize when called upon.

I do not blame the contract surgeons for not wanting to get down and walk, for they know full well that Big Business will put some one else in the saddle over night. Organized medicine should tighten the reigns on membership so that any member appearing before legislative bodies to defeat legislation approved by their local district and state medical societies would be automatically dropped from membership in their local and state societies.

We have other faults probably forced on us by the public for they are demanding a specialist for different diseases when half of their troubles could have been handled by a general practitioner, except in chronic obscure conditions. I fear we have lost the ability of the old clinicians and are having too many laboratory fees and consultations, whereby the medical cost of illness has climbed so high that to the average man with small or medium salary, which has been over absorbed by our modern high cost of living as demanded for education, clothes, auto, radios and picture shows, to where there is nothing left in his budget for medical care or hospitalization.

The public has been over sold on the installment plan for autos, furniture and radios, and we as physicians have been exploited by manufacturers of vibrators, diathermy, zoalite, alpine sun, and carbon arc lights, to where we can't treat a case at the same price that we formerly could. People demand that we be in the highest priced office buildings and have all kinds of electrical equipment, and want us to attend them and charge the account and get it, provided every dollar of their wages is not already allotted to the dollar down and dollar rest of their life installment houses.

I fear many of the poor and middle class are hurt by credit and over salesmanship of installment houses.

When any one becomes ill with a communicable disease it effects others and slows up efficiency, lessens earning power, cripples industry, and an epidemic in a city will often paralyze outside trade; therefore, society as a whole is interested in preventing epidemics and rightly so.

When the control of certain diseases as smallpox, typhoid and diphtheria becomes individual, then I think it really should be no longer a place for the Public Health Service to compete with the family physician or the medical profession, for the medical profession made the having or not having such a disease possible, and Public Health should endeavor to pass a law that every child should produce a certificate showing successful vaccination against smallpox, and immunizations against typhoid and diphtheria before they could enter any school, either public or private, in a metropolis or a one-room mountain school.

This could be national in its scope by overcoming state rights, by Congress passing a law "for revenue only", by taxing every general practitioner $1.00 per year for registration, and the nation would soon be inoculated and protected, and we would not be in a similar disgraceful condition as the State of Illinois.

In February, 1930, issue of Illinois Medical Journal, Dr. Andy Hall, State Director, presented some striking figures and disgraceful statistics regarding smallpox in Illinois. To emphasize some of the outstanding comparisons the statistics below are given:

"In 1929 the states of Arkansas, Kentucky, Maryland, Massachusetts, New Hampshire, New Mexico, New York, Pennsylvania, Rhode Island, South Carolina, West Virginia, and the District of Columbia, the combined population of which is 44,731,000, and having compulsory vaccination laws, had 1,950 cases of smallpox, while Illinois with a population of 7,396,000 had 4,228 cases of the disease. Chicago itself, with nearly 4,000,000, had only 73, leaving 4,155 cases to the other 4,000,000 people of the rest of the state."

In four and one-half years Illinois had nearly twice as many cases of smallpox as eleven foreign countries combined that have compulsory vaccination.

Now Illinois has had full time Public Health service for years which have more or less competed with the physicians in private practice, and other adjoining and distant states have also had full time Public Health service, and if they have compulsory vaccination against smallpox and inoculation against typhoid and diphtheria, they have not united to protect the public of their states by making a drive for a national law providing protection against these communicable diseases, as the Harrison Anti-Narcotic law which is controlling the narcotic evil.

Said proposed law could have or contain a clause covering any disease for which a preventive might be found in the future.

I feel that contract practice is the forerunner of state medicine and agreeable with society and big business, as big business is underpaying employes and would welcome the state making up their shortcomings by giving free medical care.

Avoidance of affiliation with outside agencies that are organized for personal or dubious profit, though with cleverly disguised motives, is something to which the medical profession must always be on its guard.

I think every physician should be interested in the history of the profession and he should do his part to uphold its reputation in the present and future, and the best way he can do this is to support organized medicine and good citizenship, and the best bargain a physician ever received for his money is membership in his local district and state society. His interest should be genuine and not only for the honor of becoming an officer of his society. You and your society—what do you know about it? What can you do for it? Do you do anything?

Chas. J. Whalen says, "Today's world works by organization." The mass movement is a direct complement of the machine age.

Men who complain that they have no interest in organized medicine and that they could not get anything out of it, even if they did, might well stop for a time and take stock of themselves as well as of organized medicine, its benefits, products and demands.

Along with the machine age came the great mastodon of personal selfishness known in the vernacular as "The Gimmes".

Not what we can give, but what we can get, is the terrible "Winter of Discontent" congealing the altruism of many an otherwise heroic citizen.

Old as Greece is the adage that a man takes away from the oracle that which he brings thereto. What are you, brother dissenter, going to give to organized medicine to pay for what you can get? Remember the day of miracles endures, but Santa Claus and Fairy Godmothers are off and away to another world. Science banished myths. Hence, science must swallow its own medicine—modern magic is persistent, self-less labor for the common good.

A county society is as good as its members make it. Ask yourself how much of an effort you put forth, in other words, where the county society is concerned, how much will the society have to dispense in the way of success as to programs, standing, and education from interchange of experience, if each individual other member does as you yourself are doing in relation to your county society? Go a little further. Apply this same rule to the sessions of your district and state; to those of the A. M. A. Use the measure of your own interest, labor, and general expenditures in behalf of each organization, as the individual calculator for all of these sections of organized medicine. Where would these societies be if you ranked at par? Do you feel proud or ashamed of the answer?

Ask yourself, also, what degree of fraternal spirit, of coordinated effort, of mutual protection, for the profession and for the public health, would exist, if your own contributions were the standard unit of measure of evaluation?

Ask yourself if you are working for the highest ideals of organized medicine by upholding the fee schedule of those able to pay the regular scale of fees; by discounting the bills of those less fortunate in life, and doing your part of the charity work in your community, and by attendance and support of your local society; or are you a leech on the surface of the medical profession, profiting by all organized medicine has done and is doing for you and your family and the public, and giving nothing in return; or are you in the profession purely from a mercenary standpoint, taking no interest in the profession and gouging the public on every opportunity?

How many papers have you read before your county or other local society? Why? *Weren't you asked?*

If you haven't been invited to take part in these programs did it ever occur to you that your own attitude of indifference may be keeping you from just recognition in your community, and local and state society?

The best defense is a strong offense—and only by organization can we meet the attacks that are being made upon us.

Marshal Foch, on assuming command of the allied armies, said, in substance, that any army always on the defensive was already defeated; and that he intended to conduct a strong offensive campaign. We all know the result of this resolution. While a football team strong on defensive play may lose very few games, it will win none unless and until it has developed a formidable offense.

Organized medicine has been on the defensive with respects to problems in medical economics, though on the offensive with respects to problems of disease treatment. It has always worked for better methods in the diagnosis, treatment and prevention of disease, and has done everything in its power to further investigation along these lines for the benefit of the public.

Its attitude with respect to problems of economics has been just the opposite. It has insisted on the maintenance of the "status quo ante" regardless of whether that is what patients want or whether it is best for the patient or the profession.

Some are saying that the medical profession is not taking the interest it should in preventive medicine. In this way they are maligning organized medicine which has always supported all scientific methods in the prevention of disease. There are, however, individuals in the profession who have perhaps not done all that they might in the spreading of such knowledge and in the safeguarding of the public by seeing that all of their patients were properly protected. On the other hand the patient who is notified that he should report for inoculation against this or that disease or have his children tested for susceptibility to this, that or the other contagious disease, often has the feeling that the doctor is just trying to collect another fee. "He can wait until we are sick and then we will pay him when we are good and ready." Much of the apparent lack of interest in preventive medicine is due to the attitude of the lay public and not to the attitude of the individual practitioner. Furthermore, the public is not sold on the advantages of periodic health examinations despite all that has been said in favor of them by the medical profession, in Hygeia, and in releases to newspapers and magazines, and in radio talks. Insurance companies have some difficulty in getting policyholders to have periodic health examinations even when the insurance company pays for the examination.

Recently President Frank, of the University of Wisconsin, Professor Douglass, of the University of Chicago, and B. A. Filene, of Boston, have stated that the state, the insurance companies or other lay corporations or organizations will take over the practice of medicine, if organized medicine does not do something constructive to make it possible for all classes of people to get the same type of medical service at rates they can afford. The 99.875% of the population whom the medical profession, who number but 0.125% of the population, serve, must be considered. The medical profession constitutes a very small minority from the point of view of numbers, of invested capital or of financial strength. It possesses, however, a legal monopoly and unless it is able to exercise this privilege intelligently and in the best interest of the public, medicine will necessarily come under the domination of the public who will regulate its practice as they have that of the railroads and the public utilities, or will make the diagnosis and treatment of disease even more a function of the state than is prevention of disease at present.

The general practitioner, of the nineteenth century and before, was able to master the whole field of medicine and surgery as then known and so was able to give all medical service to all of his patients all of the time. In the last fifty years, the field of medicine has increased so rapidly that it is a physical and mental impossibility for one man to be master of all its departments.

Specialization has become a necessity. However, a physician can still be a "family doctor" even though he is not a general practitioner. The "family doctor" may be a surgeon, internist or specialist; he must have the confidence of his patients and sufficient general diagnostic ability to direct his patients where they should go to receive the best attention.

The real question at present is how can all classes of people obtain the best medical attention at prices they can afford to pay. Can this be accomplished on the basis of individual practice for which organized medicine has conducted so strong a defensive campaign? Can it be accomplished better by group practice, by medical firms organized as are law firms? By "not for profit" corporations controlled by the medical profession? By "not for profit" corporations, the trustees or directors of which must be physicians? By complete centralization in one cooperative unit with branches all over the city and county? By neighborhood centralization or in adjoining hospitals which would so become centers for all types of medical service, diagnostic, therapeutic, preventive; for all people, the ambulatory sick, the bedridden and the healthy? By the present system of fees? By a per capitation system of fees in which the client pays his physician or medical firm so much per year to keep him well and to care for him when he is sick; really a kind of mutual insurance with the physician or medical firm gaining the greatest net income, if it keeps its clientele in good health? The per capitation system of fees should be considered only if the fee went directly to the physician or medical firm; not if paid as a tax or as an insurance premium.

Who really knows the answer? Not the public, for many of the plans suggested have not been tried out; not the members of the medical profession, for the same reason. The public seems to think the present system has been tried and is not satisfactory. Are the members of the medical profession going to take the offensive and by the only sure method, that of trial and experience, try to ascertain the method best for all concerned; or, are they going to let the public take away from them the solution of this vast problem? Are they going to continue their purely defensive campaign, and dogmatically maintain that the present system is the only system, and that it gives all the people all the medical service they need and the medical profession all the reward it is entitled to regardless of whether the public wants more service and the members of the profession a greater reward?

If the medical profession is to retain its independence, it must sanction experiments in medical economics just as it sanctions experiments and progress in other lines of work.

"*The Doctor of the Future*" by George E. Vincent, Ph.D., President of the Rockefeller Foundation, says:

"It may be admitted that the general practitioner, as now equipped and related to the profession, faces serious and probably increasingly difficult handicaps. He is overshadowed by the prestige of the specialist. He cannot as an individual afford the cost of modern equipment and technical resources. In the case of perhaps half of the general practitioners there is no genuine hospital connection which affords opportunity for continued education and professional stimulus. The growth of institutional and of preventive medicine is constantly encroaching upon the ordinary fields of curative medicine.

"The doctor may make a place for himself as a counsellor of health. Personal hygiene will always remain the largest part of a public health program. After the environment has been made sanitary and communicable disease subject to the maximum control, there will remain the vast field of personal health for which no organized public functionaries can assume responsibility. If the general practitioner will recognize this opportunity, if medical schools will prepare him for the service, if the community will recognize his value in this new relationship, an inspiring career of opportunity and usefulness will open up before him. This will mean, however, a gradual change of attitude, an increasing interest in the normal, a study of the effects upon health of diet, exercise, mental attitudes, recreation, family and social life. All the finest qualities which have made the general practitioner successful in the past may be trained to even greater account in the future."

The medical profession, then, has a heavy responsibility and an inspiring opportunity. Will it recognize the tendencies of today and the demands of tomorrow? Will it take the long view, the socially conscious attitude? Will it see that the best service must be made available to the great masses of the people on terms that they can afford to meet, that no medical mechanism can efficiently replace skillful and sympathetic human care and guidance, that prevention of disease must be more and more a dominant motive, that the general practitioner, if he is to survive, must be readjusted to new times, trained, esteemed, and rewarded as a vital factor in the medicine of the future.

You will rightly reply that the responsibility rests only in part of the medical profession. You will probably ask, "Will family life, school, colleges, universities, the press, the platform, social standards, public opinion offer an environment in which well trained, wisely organized and high-minded doctors can do their work honestly and efficiently, protected against ignorance, prejudice and fanaticism?" Yes, it is a social problem which involves our whole civilization. To analyze it is not to solve it. We can only hope that clearer vision may kindle imagination and strengthen resolution.

Dr. Hugh T. Patrick, in his inaugural thesis as president of the Institute of Medicine, gave a talk, afterwards published as a monograph, on "The Patient Himself", which is one of the best articles of its kind in the literature of American medicine. It deals with the rights of the patient. The great tendency of the physician is to assume a sense of ownership of his patients, to assume the right to dictate even to mental processes of the patient, to the extent that he is apt to become a dictator rather than an adviser. This is fundamentally a wrong attitude. The patient is a human unit, and his rights cannot be ruled out. One thing taught by the late Dr. Nicholas Senn, probably one of the greatest men that medicine ever knew, was to make the patient assume all the responsibility he possibly can, and make him assume that responsibility by giving him all the information about himself that it is possible to give; in other words, put the patient's mind in the attitude your mind is in regarding his case, and being an ordinarily intelligent human being, he will make his own evaluation. Mysticism is the fundamental curse of medicine; evasion and secrecy are criminal. The best way to help any human being is to help him help himself. The man who is evasive in his dealings with his patient is either dishonest or ignorant, or both.

Psychiatry, more than any other branch of medicine, offers an illustration of this.

A psychiatric patient has an obsession, an aberration. It does not make any difference what the degree or extent of gravity may be; any aberration is serious. Men like Patrick, Goldstine, or Pollock, in handling such a case will often work for weeks and months, or even years, in the effort to understand the particular factor through which that individual has been set aside from normalcy, and in finding it are quite apt to re-establish the normalcy of the patient. They do not tell him to go home and forget it. Neither should any physician or surgeon tell his patient to go home and forget whatever is bothering him. No matter how long it takes to get the patient's point of view, it must be done, and having secured his confidence it is frequently possible by advice alone to lead him into other trends of thought by which he may get some benefit.

Every medical cult in the world has had its birth in medical intolerance, medical sense of ownership, and had there been no medical intolerance there would have been no opportunity for the development of these numerous cults. Had medicine been tolerant, public minded, social minded, keenly alive to the rights of the patient, there would not have been the growth of medical cults which flourish today—all of which have some good in them, or they could not live—Christian Science, osteopathy, narrapathy, optometry—but they are all segments of truth, and the most dangerous thing is a half truth. The bad outweigh the good. They should all be housed by, be controlled by medicine. And if they were, the cults could not thrive for one moment. They thrive only because the doctor failed to meet the need of relieving his patient, either physically or mentally."

In conclusion, I would say that as the medical profession represents only one-eighth of 1% of the population that we must meet the situation, or else the people representing 99⅞% whom we must serve will do it for us and over us, and were it not for our local, district, state and American Medical Associations, we would be absolutely at sea in this fight that is now being made on the medical profession.

We must remember that we are our brother's keeper, and that our duty is first to the sick man and to ourselves second.

We must be well informed individually so that we can manage many cases without an excessive amount of laboratory or consultation fees, and to frown down on too much commercialism in the profession so it will no longer be said that the general practitioner was the only one who could diagnose a case of measles without an x-ray or five or six laboratory examinations.

The bone of contention seems to be that all classes of people are not getting medical service at prices that they can afford to pay. We have divided the public into three classes: the rich, the middle class, and the poor.

The rich can get the service and they can afford to pay. The poor or charity can get the service in charity wards and free clinics and from the profession, and should not be expected to pay, so that only leaves the middle class as the real bone of contention.

Now as most of our complaint is from the middle class, then I think we do not discriminate the different classes of the middle class.

We are fortunate in having a sliding scale of charges, and I believe we could lessen the public unrest if we would only divide the middle class into classes and not charge any of them so heavy as to force them into charity or bankruptcy by applying the regular scale of fees of say $2.00 to $3.00 per office call and $3.00 to $5.00 for visits, but should consider their opportunities for making a living, the size of their families to be supported, and to watch that we not become mercenary by having them report indiscriminately for some physio-therapy treatment, or a shot of cococylate of soda or other boomerang, which is usually of very little value, but should try to follow the golden rule and treat others honestly and fairly as we would want members of our family in other cities to be treated.

Many of the deserving poor would like to go to their physician and pay something and do not like to be forced into accepting charity or resorting to bankruptcy, but if they are to be lured into an office an unnecessary number of times and then presented with a bill of the regular scale of office calls or visits, and then because they cannot afford to pay the full rate their account is turned over to some blood-thirsty commercial or professional collecting agency, then we are cutting our own throats and crowding the charity wards and bankruptcy courts and making another voter against the medical profession. And now as to whether it is twilight or dawn I am unable to say, but we must remember "that if we are not fair we will not ride these stormy gales, for God's hand will no be on the helm, and neither will his wind be in our sails".

98th Annual
Meeting
Knoxville
April 14, 15, 16

THE WORK BEING DONE BY THE CENTRAL STATE HOSPITAL FOR THE COURTS OF TENNESSEE*

H. B. BRACKIN, M.D.

Central State Hospital, Nashville

FOR a number of years it has been the policy of the Superintendent, Dr. W. S. Farmer, to not take a fee for any psychiatric work done by him on the staff for the Courts of Tennessee. Frequently, lawyers come to him and say: "Doctor, I have a client I believe insane and I will see that you get a good fee if you will examine him and testify in court for me." The answer always is: "I and my staff will examine him and it will not cost you a cent. If you believe he is insane have the judge to commit him to the Central State Hospital for a period of thirty to sixty days observation, and we will give him a thorough mental and physical examination and have all laboratory work done that is indicated and observe him closely, and as soon as we decide whether he is sane or insane we will make a sworn report of our findings to the judge and send you a copy and send a copy to the Attorney-General." The lawyer will often answer: "Oh, no! You might fall on the wrong side." However, our method has become generally known to the judges and lawyers of Middle Tennessee, and we are getting a large number of cases to work out; in fact, about as many as our staff has time to do justice as there is a great deal of work to be done in these cases.

Dr. Farmer and the staff of the Central State Hospital are attempting to bring about a better understanding between the medical and legal professions. Although, we think we are justly due a fee, we are refusing any to bring about this better understanding. When the judge or jury hear the sworn statement read or you make it from the witness chair, that you have no interest in the case and receive no fee, then they will believe your statement, while if you are testifying for one side and the opposing attorney ask if you are receiving a fee and you answer "yes," then he says "I thought so", and the jury gives no consideration to your testimony. We hope in the future Tennessee will pass a law giving all alienists that testify in court a fee, but make the law so all examinations and testimony will have to be non-partisan.

I wish to give a synopsis of some of the work done by the Central State Hospital during the last two years and four months, during which time I have been first assistant physician at the Central State Hospital and in charge of the male department. Since practically all the criminals sent for observation by the courts are men, it has fallen my duty to do the mental and physical examinations on these patients. Unfortunately, our fire in July, 1928, destroyed the records up to that time, so I will give this report partly from memory and partly from records made since the fire.

During this period of two years and four months, we have received criminals for observation that have committed murder, assault with intent to murder, larceny (both petty and grand), robbery, rape, forgery, arson, and minor offenses. The responsibility in these cases is great. We are responsible to the patient, and it often means life or death to him. We are responsible to the State and our decision often decides whether there will be a long drawn out trial taking up a lot of valuable time of many people and costing the taxpayers of the State many thousands of dollars. Many of these patients we receive for observation are recidivists in crime and it means a great saving to humanity in money and often lives, for them to be found insane, rather than be sent to the penitentiary for a term of a few years and get out and again steal, forge or maybe kill someone in a holdup, and then another trial costing money besides the damage he has done to property and lives. This thing is often repeated over and over, while if the criminal had been properly examined at first he may have been found insane and committed until he recovers, which often never takes place and society is freed of dealing with this undesirable, and lives and money saved. Many people think when a criminal is ordered to a hospital for the insane for observation, that it is a method of getting him out of his trouble, but it is not so, but often a method of getting him out of society and treating him and preventing him from serving a short sentence and again repeating a crime he cannot help. Every man or woman who commits a crime deserves a chance to be properly examined, and if he or she is normal mentally, then be sentenced accordingly, but if not normal mentally, but sick mentally, why should they not be treated for their illness in place of being punished? Would you punish a typhoid or pneumonia patient if they become delirious and hurt someone? No, of course, you would not. Then, why not treat rather than punish a paretic who steals or a dementia praecox who commits murder? It is the hope of the writer that Tennessee will some day pass a law designating so many alienists to examine all criminals before trial and all prisoners before parole or pardon; their salary to be paid by the State. According to available statistics, about 5 per cent of all inmates of penitentiaries are insane and 20 to 30 per cent are feeble-minded or of an abnormal make-up. Most likely there is a larger percentage if they were all carefully examined by a psychiatrist. According to Dr. Long, our prison physician, 33 1/3 per cent of all inmates of the Tennessee Penitentiary have syphilis. Why should all these be turned back on society at the end of their sentence without a mental examination. I must say our present Commissioner of Institutions, Capt. Richard Lyle, is awake to this fact and is doing all in his power to remedy it. Every few days he orders Dr. Farmer and members of his staff to the penitentiary to examine someone Dr. Long thinks is insane or to examine a prisoner the Governor is thinking of pardoning or paroling. We do not have the time to examine but a small per cent of the prisoners.

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*Read before the Nashville Academy of Medicine and Davidson County Medical Society, Nashville, Tenn., April 2, 1930.

We have received fifty-nine patients for observation from the Courts of Tennessee during the last two years and four months. Nineteen of these patients had committed murder; seven had attempted to commit murder; twelve had committed larceny, stealing everything from chickens to automobiles and thousands of dollars worth of diamonds; eight committed forgery, four committed rape, two committed robbery, two broke the White Slave law, two broke the Jones law, one had sex relations with a mare, one committed arson, and one abused women.

After observing these patients from thirty to sixty days and doing a complete mental and physical examination and all laboratory work indicated, we made a written report in each case and outlined our reasons for saying whether patient was sane or insane. All of our staff signed each report and swore to it before a notary. We always state in the report that we have no interest in the case and receive no fee, and always send three copies of the report: one to the judge, one to the attorney-general, and one to the attorney for the defense. Out of the fifty-nine cases, I am indeed proud to state, our report has been accepted verbatum by the court in 53 of them. Our report was simply read without any of us being present or even summoned. The judge passed sentence according to our statements. If we stated they were insane the court sent them to the hospital for the insane to remain until they recovered and then be returned to court to stand trial, this being according to the Tennessee statute. If we stated they were not insane then they were tried for the crime and if found guilty sentenced to prison, and if not, released. In the other six cases we were subpoeaned and put on the witness stand and merely asked to recapitulate to the jury our written statement, and in each case they followed our recommendations. In other words, the courts of Tennessee, which also includes the Supreme Court, as some reports were for them, have accepted 100 per cent the statements of the staff of the Central State Hospital for the past two years and four months in regard to the sanity or insanity of fifty-nine criminals. This record we feel justly proud of, but do not think our results are on account of our superior ability, but on account of our method. We doubt that our method is used in other states, and we also doubt whether there is the complete cooperation and confidence in any other state between courts and hospitals for the insane.

Out of the fifty-nine criminals examined, we found fifteen cases each of dementia praecox and mental defectives. The mental deficiency in most cases was along ethical and moral lines, meaning by this what has been dignified by such terms as kleptomania, pyromania, pathological liars and pathological swindlers and many of these are beyond the average intellectually, there being only three out of the fifteen that were deficient along educational lines. Then we found general paralysis of the insane to come next, there being seven. There were five that had psychosis associated with epilepsy. There were two that had psychosis due to cerebral arteriosclerosis. Then there was one of each of the following types of psychoses:- Manic depressive, manic type; senile; alcoholic psychosis, chronic type; psychosis with mental deficiency; and psychosis, type undetermined. Then we found ten as not insane and not abnormal—these rightfully belong in prison. One of the ten normal mentally was a colored man who raped an elderly white woman and assaulted another. When we sent in our statement that he was normal he was found guilty and electrocuted. The fifteen found mentally deficient or of psychopathic personality makeup, were sent to prison as there is no institution in the state that is exactly suitable for them. They are not insane, but they cannot keep from committing crime and they will serve a short sentence in prison and get out, then again commit a crime and again go to prison, going through life this way. A number of this group have already served one or more terms in prison. They should be segregated for life, bnt there is no law on the statue books of Tennessee that fits their case. There is such a thing as diagnosis in law, as well as in medicine. New York state has a law, the Baum law, that sends all fourth offenders to prison for life, regardless of the crime, which I believe is a good law.

Twelve cases of the twenty-six that committed murder or attempted to do so were cases of dementia praecox, and there were only fifteen cases of dementia praecox, showing 80% of the criminals that had dementia praecox committed murder or attempted it. This type of mental disease is often overlooked by the laity or even by physicians not familiar with mental disease. As shown above, it is one of the most dangerous types of mental disease on account of the frequency of ideas of persecution and auditory and visaul hallucinations. This is one of the types that is the hardest for the juryman, who knows nothing about psychotic behavior, to believe is mentally wrong—and they often disregard the statements of trained psychiatrists and believe what some layman says that knows nothing about mental disease. One of the murder victims was a physician. This physician had been treating a case of dementia praecox and did not know it. He possibly thought he was only peculiar or a neurosthenic, as he had many somatic delusions. This patient called the physician to come to see him, as he had done before, and told him to come as soon as possible as he was suffering. When the physician stepped in the door the patient politely blew his head off with a shotgun. The patient believes God told him to do this because the physician had him to inhale turpentine which hurt him. He had no remorse for killing him and still has none. The court sent us this man for observation. We made a complete examination and observed him for about six weeks and made a written sworn report that we believed him insane and gave sixteen reasons for thinking so, as he was a clear case of dementia praecox. The sheriff came for him and carried him one hundred miles to court, had his trial and brought him back the same day. No witnesses were used. They simply read our statement and the judge said the testimony is ended. The jury found him insane and he is now in our criminal insane department. This saved a long drawn out trial and thousands of dollars and much valuable time.

Another case of dementia praecox knocked his wife in the head with an axe while she was asleep. This occurred in Alabama and he was sent to prison there for fifteen years and got out after serving nine years. He came to Nashville and married about three months after getting out of prison and three months later knocked this wife in the head with an axe while she was asleep. If he had been examined before the first trial or before he was paroled, the second life would have been saved. This man thinks God told him to kill each wife. He sees and talks to both of them now, although they are dead. He has been insane for twelve or fifteen years.

Five of the seven cases of general paralysis of the insane were guilty of petty or grand larceny or forgery. This again is exactly what you expect on account of the frequency of grandiose ideas in this type of trouble. Many cashiers of banks that embezzle money are cases of general paralysis of the insane and get an idea it is all their money. These five cases did not think they were stealing or forging but taking what belonged to them. One of these, for instance, accused of forgery, said he didn't see why they accused him of forgery when he had millions and millions of dollars in the bank; in fact, said he owned all the banks in the world, also the railroads, steamship lines; in fact, finally said he owned everything in the world except an elephant and he expected to get him a herd of them.

In this group of fifty-nine there was only one manic and this is the type that most people think most dangerous, but they do not commit near the crimes that other types do.

There were only two cases of psychosis with cerebral arteriosclerosis, and they both committed murder, which is not unusual on account of the frequency of paranoid ideas. One of these cases was quite interesting. He was a man worth twenty-five or thirty thousand dollars, a fine Christian gentleman and well thought of by everybody that knew him. He lived in an East Tennessee county, where he killed a woman and her daughter due to paranoid ideas. He then barricaded himself in his house and while officers were attempting to storm the house, a stray shot from his gun killed a Carson-Newman College student. When he was put on trial hundreds of witnesses were summoned. Several physicians testified, among them one of the best alienists in Tennessee. This alienist stated the man was insane, but the alienist was receiving a fee and the jury would not believe him. Several trials were necessary and the case went to the Supreme Court with a sentence of thirty-seven years in the penitentiary. This patient's family spent every dollar he had, selling all of his property, and it cost the state thousands of dollars. The Supreme Court sent him to us for observation. There was no doubt about the man being insane, and we made our report accordingly, and the Supreme Court sent him to the Eastern State Hospital for the Insane, as he belonged in that district. The point is if this case had been properly handled at first thirty or forty thousand dollars would have been saved, and the time of many people. The alienist that testified knew as much about it as we did, but the jury would not believe him because he was testifying for one side and receiving a fee.

There were five cases of psychosis with epilepsy and three of them murdered or attempted it. Epileptics are sensitive and irritable and murder is almost a symptom. If an epileptic attacks a person he will surely kill if he can and the pitiful thing is they seldom remember just what they did. One of these epileptics committed rape on a child and has no recollection of it.

SUMMARY

Over a period of two years and four months we have examined and observed fifty-nine criminals for the courts of Tennessee. Out of this fifty-nine there were only ten normal mentally, about 17 per cent. There were fifteen not insane, but abnormal, approximately 25.4 per cent. This leaves 57.6 per cent definitely insane. We do not mean to say the percentage would be this high if all criminals were examined, because it was evident to the laity in these cases that there was possibly something wrong; hence, they asked for an examination. I hope I have shown that these examinations are worth while for the sake of protection of lives, property and society in general, and from the humane standpoint, that the mentally sick should be treated as sick people, as well as physically sick.

I would like to enlist the members of the Academy to help promote the passage of laws that will guarantee all criminals before trial and all prisoners before pardon or parole a non-partisan examination by competent alienists.

DISCUSSION

DR. W. S. FARMER (Nashville, Tenn.): Dr. Brackin has given you a brief resume of work done for the criminal courts of Middle Tennessee for the last two years. Many years ago I became disgusted with the law's method in regard to expert testimony as usually practiced by our courts. To medical men belong medical subjects, and whether a man has mental disease or not, should be left entirely with the medical profession. All opinion of medical men given in court should be non-partisan. Our opinion in court cases should be in writing, and the physicians on each side should be compelled to consult with one another the same as in general practice. This thing of locking a physician in a witness room to sit there half a day before putting him on the witness stand in which he is to give scientific knowledge should be resented by the whole medical profession. In 1920 I began this system of non-partisan testimony at the Central State Hospital, and how effectively and satisfactorily this system has worked, Dr. Brackin has beautifully described to you. The relationship of insanity to crime is one of the most beautiful, fascinating and interesting studies, and bids fair to bring about a universal change in our penal laws, which in course of time will be of everlasting benefit to our nation. Since adopting this system in 1920 I have lived to see the American Bar Association go on record advocating the system that has been in vogue at our institution for many years. During this time hundreds of cases have passed through our institution—some went to the electric chair, some to prison and some confined in hospitals for the insane.

EPILEPSY:

Epilepsy is probably responsible for as many pathological offenses as any other form of positive mental disease. Murder by an epileptic is as much a symptom of his disease as a pain in the side is of pneumonia. It is certain in passing an epileptic we elbow one who might be an assassin on account of their hair-trigger temperaments; their impetuosity and their lack of emotional control.

PARANOIA AND PARANOID STATES:

Paranoia and paranoid states furnish us with a large quota of pathological crimes. These crimes are often homicide, assault and battery, blackmail, perjury, impersonation of officers and sexual crimes.

DEMENTIA PRAECOX:

The crime of dementia praecox are often characterized by mental enfeeblement often a state of indifference, thoughtless, senseless and impulsive brutality. Williams in the study of 127 vagabonds found 66 cases of dementia praecox. Petit larceny, drunkenness, breaking box cars, sexual offenses and public prostitution is common, as well as murder.

GENERAL PARESIS:

The crimes of general paresis are mostly of the following types: Larceny and forgery are common; homicide and suicide occasionally, and occasionally some sexual crime, immorality in general. Oftentimes the moral symptoms are frequently the first to appear. One characteristic of the crime of a paretic is they do not try to hide their crime, as he often has no insight into his condition.

MANIC DEPRESSIVE PSYCHOSIS:

Crimes of this type are relatively rare as compared to other types. Crimes of the manic type the extreme psychomotor activity interferes with the accomplishment of the act, but nymphomania, kleptomania and dipsomania are quite common and murder occasionally.

DEPRESSED TYPE:

The most common in the depressed type is suicide, but occasionally these patients surmise that their soul is lost, their families will starve to death, and they may kill all the members of the family and then themselves.

ALCOHOLIC AND DRUG PSYCHOSIS:

In alcoholic and drug psychosis, we find the following types of crime, namely: Petty thefts, larceny, rape, incest, sodomy, assaults and homicides.

SENILE PSYCHOSIS:

We pay the proverbial reverence for gray hair, the stooped form, the tottering gait, and the kindly human sympathy so characteristic of the aged. But this senile period of mental and physical decay is not always attended by a peaceful and undisturbed serenity. Occasionally there is profound moral deterioration and they may become abnormally irritable and egotistic and not uncommon for vicious assaults may be made on his family if they neglect his slightest whims. Satyriasis is not an uncommon symptom and may manifest itself by rape on young females or bigamous marriages. Many sexual crimes are committed by decrepit old men.

The crime committed by an arteriosclerotic individual partakes largely of the senile type except they more frequently commit homicide acts.

FEEBLEMINDEDNESS:

The greatest factor of crime is feeblemindedness. Brutality and cruelty seem to be universal symptoms of imbecility. They take to torture of animals, laugh at pain in others, cripple birds. They lack reason and judgment. Higher imbeciles often develop delusions of persecution, and as Dr. Brackin has said, 20 to 30 per cent of all criminals are feebleminded. One of the crying needs of today is for more psychopathic laboratories.

Come to

the 98th Annual Meeting

April 14, 15, 16

Knoxville

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee
Office of Publication, 510 Doctors Bldg., Nashville, Tenn.

H. H. SHOULDERS, M.D., Editor and Secretary

MARCH, 1931

EDITORIAL

THE PUBLIC HEALTH

The most effective agency for the prevention and treatment of disease is a well-prepared, well-organized profession of medicine governed by the principles in the code of medical ethics.

The above statement expresses a philosophy of medicine. It is the philosophy of those who are opposed to what is called "State Medicine."

The philosophy of state medicine might be stated as follows: *"It is the duty of the state to prevent and treat all diseases at public expense."*

A struggle is on between these two philosophies. Statesmen, or legislators, will be the final arbiters of the question as to whether we have state medicine or not.

The former is the philosophy which we believe we should hold on-to. It has stood the test of time. It is the philosophy that has guided medicine in America to its present high plane of efficiency and usefulness —the highest on earth. It has given to the public the best medical service to be had on earth. It comports with the spirit of American institutions. It will insure the best medical service to the public in the future. It is, therefore, in the public interest that we are opposed to the philosophy of state medicine.

Organized medicine in America has stood for high standards of medical education. It has stood for high standards of ethics in practice. It has sponsored legislation in the various states in the interest of public health. It has sponsored legislation to promote all these ends. All these things have been done in the public interest.

The adoption of the philosophy of state medicine is being accomplished gradually and, no doubt, in some instances unintentionally. For example, state and municipal departments of health have broadened the scope of their activities to the extent that they are taking on activities which do not properly come under the duties of a department of public health.

The treatment of individual diseases belongs to the province of the practitioner of medicine. It is the function of a state department of health to enforce sanitary measures and legislation calculated to protect the public against various hazards and thus to promote the health of the public. When departments of health engage in the work of treating individual ailments they are leaving their proper sphere and engaging in competition with citizens of the state.

We might clarify our understanding of these problems by a discussion of several diseases.

It is forgotten almost at times that a majority of our major public health problems were solved before state and municipal boards of health were well organized. Take, for example, cholera. This disease ceased to menace our cities many years ago. Yellow fever is rarely heard of today. State and municipal boards of health in recent years have had nothing to do with either disease.

Smallpox years ago ceased to be an important cause of death in this county before departments of health were well organized. The most effective regulation that has ever been enacted for the control of smallpox is that which requires children to present a certificate of successful vaccination upon entering school. Immunity to smallpox by the simple means of vaccine is available and accessible to all the people without the necessity of public expense.

Pellagra, which a few years ago was heralded as a public health problem of the first magnitude, has diminished in frequency coincidentally with the improvement in our economic situation. No public health regulation has had the slightest effect upon this situation.

Diphtheria ceased to be a very important cause of death soon after the specific treatment of the disease was discovered. The practice of immunization is of value, but it is of relative value. The reduction in mortality from this disease has been due to the prompt diagnosis and treatment of the disease by physicians. The simple immunizing treatment can be administered by any physician and is available to the people at small cost. This requires no large public expenditure.

Sanitation will solve the typhoid fever problem. It is essentially a task for sanitarians. Vaccination against typhoid fever is of relative value. It, too, is available to all the people at small cost without the necessity for large public expenditures.

When sanitary measures are properly carried out vaccination will cease to be necessary. We repeat that three shots of typhoid vaccine can be had at small cost anywhere in the United States, regardless of state and municipal boards of health, and without regard to the amount of their appropriations.

Hydrophobia is a public health problem, though it causes relatively few human deaths. Its control in the human rests in the proper control of dogs, or in the administration of Pasteur treatment. If the proper regulation of dogs is enforced hydrophobia in the human and the dog will cease to occur and Pasteur treatment is rendered unnecessary. In other words, the Pasteur treatment affords a protection to a person who has been bitten by a rabid dog which bite should not have taken place.

The administration of Pasteur treatments by boards of health is unnecessary, expensive and does not solve the problem at all. These treatments are available to the public anywhere at reasonable cost.

It is clearly the function of the state to deal with the dog situation and thus rid the state of hydrophobia. To continue the policy of free administration of Pasteur treatments is to continue a policy that solves no problem and constitutes an endless expense. But why go on?

It is obvious that the profession of medicine has not received the credit to which it is properly entitled for the reduction in human mortality that has already taken place. We assert without fear of contradiction that doctors who go about their work unheralded in the newspapers are accomplishing more in the prevention of disease than all the state, county and municipal boards of health in existence.

It is certainly very noticeable that the reduction in mortality in recent years has not been proportional to the increase in public expenditures in the interest of public health, even if all the reduction of mortality were credited to the administration of health departments, which would be in itself a gross error.

It is time, and it is high time, that we doctors talk right out to the public on these matters.

Human illness makes a sentimental appeal to the public and the public is for this reason easily led into a false philosophy of medical socialism. Medical socialism cannot fail to lead to a tragic end, both for medicine and the public.

Let it be clearly understood that organized medicine favors liberal appropriation for the financing of the proper public health measures. Let it also be understood that organized medicine is opposed to the appropriation of large sums of money to finance public health officers in dealing with purely personal health matters.

THE KNOXVILLE MEETING

A committee of the Knox County Medical Society, headed by Dr. E. G. Wood, is actively at work in making preparation for a big meeting of the State Society at Knoxville.

The Hotel Andrew Johnson has tendered to us their excellent facilities. The Andrew Johnson is a large modern hotel that can accommodate the general session and all the sections at the same time.

The registration desk will be in the lobby.

The program is now complete and will be mailed out to the members about April 1st.

Aside from the attraction of the meeting in Knoxville, there are many points of historic and scenic interest in Knoxville and in the vicinity of Knoxville to which members might like to motor.

Mark your calendar now!—April 14, 15 and 16.

IT PAYS TO ADVERTISE
—OR—
ADS ARE READ

"Journal, Tennessee State Medical Association,
"Nashville, Tennessee.
"Gentlemen:

"Enclosed find check for $1.50 for ad.

"Will state I also got letter this morning from Dr. ———, ———, stating he had seen my ad and serial number and about two months ago an instrument man came to his office and he swapped an old one for this one of mine.

"Very quick work and I thank you.

Respectfully,
(Signed) "C. M. Womack, M. D."
Lawrenceburg, Tenn.

Foundations Stifling Medicine

Under the heading of News Notes and Comment, we have reproduced an article that appeared in the New York Times under the above heading. It is a story based upon a report made before the New York County Medical Society by Dr. Samuel J. Kopetzky.

NEWS NOTES AND COMMENTS

Dr. G. W. Moody, of Shelbyville, was seriously ill last month. Late reports state that he is improving.

Members of the Memphis and Shelby County Medical Society and Dental Societies were guests on February 10th, of the Doctors' Secretaries' Association.

The principal discussion of the evening was a symposium on "The Secretary a Doctor Wants."

The Mt. Regis Sanatorium at Salem, Virginia, was damaged by fire recently. We have a letter stating that the press reports were exaggerated and business is being carried on as usual.

Dr. C. H. Johnson, of Lexington, was seriously injured in an auto wreck in February. He was a patient in Baptist Hospital, Memphis, a week or more.

Dr. D. W. Smith announces the opening of his office, Suite 240, Doctors' Building, Nashville.

Dr. J. J. Ashby announces the opening of his offices at 206-12 Doctors' Building, Nashville. Practice limited to orthopaedic surgery.

January and February attendance record for the Knox County Society is summarized below.

We wonder where every member of the State Association would find himself if other secretaries kept attendance records as Dr. Jesse Hill does. The county society is what you make it. What are you doing for your society? Dr. Hill closes the record with this advice, "If your attendance record does not look good let's attend and it will look better."

14	present	at	8	meetings
8	"	"	7	"
6	"	"	6	"
10	"	"	5	"
8	"	"	4	"
12	"	"	3	"
17	"	"	2	"
18	"	"	1	"
39	"	"	0	"

Let every Tennessee doctor ask himself, "Do I belong to the 39-zero class, or to the 14-8 class?"

Several papers in the state have announced the coming annual meeting at Knoxville, assigning April 6 or 7 as the opening date. We meet on the second Tuesday in April, which is the 14th of the month.

We have been supplied with a copy of the tentative program of the Tennessee State Hospital Association. The meeting of this association will be held on Monday, April 13, 1931. This is the day preceding the first day of the state medical meeting. All doctors and others connected with hospital management are invited to be present at the sessions of the Hospital Association.

Go to Knoxville one day early and attend both the meeting of the State Hospital Association and the State Medical Association.

Dr. E. H. Baird, Dyersburg, met with the staff and organization board of the Brownsville Hospital and spoke on "Ethical and Business Problems of Hospital Administration."

On Feb. 18th, Dr. Herschel Ezell, of Nashville, addressed the Christian County Medical Society, Hopkinsville, Ky., on "Infantile Glaucoma."

Dr. George Seeman, Nashville, read a paper on "A Plea for Cooperation Between the Medical and Dental Practitioners."

LIST OF OFFICERS FOR 1931

Greene County

C. B. Laughlin, Greeneville, President
M. A. Blanton, Mosheim, Secretary

Humphreys County

Dr. J. T. Cooley, President
Dr. J. A. Sugg, McEwen, Vive-President
Dr. W. W. Slayden, Waverly, Secretary-Treasurer

Lincoln County

W. S. Joplin, Petersburg, President
J. M. Shelton, Kelso, Vice-President
L. L. Sheddan, Fayetteville, Secretary-Treasurer

Marshall County

Dr. W. T. Sharp, Farmington, President
Dr. Paul Foster, Lewisburg, Vice-President
Dr. J. A. Hardison, Lewisburg, Secretary-Treasurer

If any member of the Association has had a case of umbilical tumor, Dr. Herman Spitz, Doctors' Building, Nashville, would appreciate being called about it, since he is preparing a paper on this subject.

PROGRAM FOR MEETING OF THE VANDERBILT UNIVERSITY MEDICAL SOCIETY

February 6, 1931, 8 P. M.

Amphitheater of the Medical School

1. *Simple Inflammatory Lesions of the Cecum*—Dr. W. A. Bryan.

There is definitely such a thing as inflammatory pseudotumor of the cecum, as well as of other parts of the colon and of other structures in the abdomen. Inflammatory tumors are much more frequent than cursory study of the literature would indicate, and few, if any, cases diagnosed as cancer of the cecum or colon should be refused the privilege of a laparotomy. When surgeons know pseudotumors of the colon better, it may be necessary to rewrite the story of the incidence of malignant tumors of the colon and to revise the estimate of their curability. Two cases were reported.

Paper discussed by Dr. Barney Brooks.

2. *Standardization of Hemoglobinometers*—Dr. G. E. Cullen.

Hellige hemoglobinometers as furnished are incorrectly calibrated with an error up to 50%, and hemoglobin determinations made with such uncalibrated instruments are useless. However, they can be easily standardized and are then capable of accuracy sufficient for all clinical purposes.

Paper discussed by Drs. Hugh Morgan, C. S. Burwell, Seale Harris, Jr., and J. B. Youmans.

3. *Experimental Shock: Further Studies on the Mechanism of Production*—Drs. Geo. S. Johnson, Joe Beard, P. N. Harris, and Alfred Blalock.

The fluid that was lost from the blood stream at the site of injury was determined after severe trauma to an extremity, mild trauma to an extremity, trauma to the intestines, and burns in deeply anesthetized dogs. Reasons were given for the belief that the loss of fluid was responsible for the decline in blood pressure.

Paper discussed by Drs. Tinsley Harrison, Barney Brooks and Alfred Blalock.

SEES FOUNDATIONS STIFLING MEDICINE

Dr. Kopetzky Says Subsidizing of Group Practice Is Unfair to the Profession.

HITS AT BUREAUCRACIES

Declares Their Physicians Lose Initiative and Sense of Personal Responsibility.

HE DEPLORES FRICTION

Urges Philanthropic Funds to Co-operate With Doctors, Not Try to Control Them.

(New York Times, March 1, 1931.)

The friction and dissatisfaction of the medical profession with the general conduct of philanthropic foundations dealing with public health, was formally presented as the principal theme for discussion at the regular monthly meeting of the New York County Medical Society at the Academy of Medicine last night, by Dr. Samuel J. Kopetzky, former president of the society and now member of its special committee on public relations.

In a prepared address entitled "How Philanthropic Foundations are Stifling Medicine," Dr. Kopetzky said that well-intentioned foundations have been guilty of two major faults: Engaging doctors in large, impersonal, bureaucratic organizations where their initiative and sense of personal responsibility for their patients was lost, and by subsidizing such group practice and entering into "direct and unjust competition" with doctors treating the "while collar class," thereby "undermining the economic stability of the medical profession."

Dr. Kopetzky excepted from his general criticism the Rockefeller and the Carnegie foundations, and the Commonwealth Fund.

In contrast to the foundation expenditures, Dr. Kopetzky said, the aggregate contribution of individual doctors to the community in the form of free medical care was estimated to be $365,000,000 a year, distributed with much more discrimination than any bureaucratic organization could exercise, and totaling "more than the entire donations of all the medical and quasi-medical foundations during the past twenty years."

Sees Great Waste of Money

He said the foundations "have wasted enormous sums of money" and have engaged in costly and unproductive experimentation in medical practice which would, in the long run, be detrimental to the public." He recommended that the foundations "co-operate" with the medical profession instead of attempting to increase their "control."

"The dissatisfaction of the profession with certain aspects of the present policies of the foundations," Dr. Kopetzky said, "is not to be construed as a lack of appreciation of the great good which many of these organizations do and the even greater potentialities for good which all of them possess.

"If the profession is truly and intelligently interested in public health education and preventive medicine, as it should be, there is no reason why it cannot give active and productive support to many of the projects of the foundations. If the foundations, on the other hand, are primarily concerned with the public health, rather than with the development of influential and efficient administrative machinery, they will recognize that the doctor is the one indispensable feature of any health program under present conditions, and that no permanent benefit can be derived from any system which stifles his individual development or destroys his economic security. Once these fundamental principles are accepted, it should not be difficult to establish a harmonious working relationship between the medical profession and the foundations.

"Confronted with the task of expending huge sums of money for the 'good of mankind,' the foundations must first determine what the good of mankind is. One of the grave flaws in current foundation policy, as we see it, has been that these groups have lacked proper guidance in the determination of their precise aims.

"With the exception of those like the Rockefeller and Carnegie Foundations, that confine themselves to education and research in their medical departments, they have wasted enormous sums of money in their ventures into the field of health. They have spent millions on demonstrations, statistics, reports and publicity without the achievement of a single notable result that can conclusively be laid to their activities.

Urges Advisory Relationship

"What more logical group is there in the sphere of health to aid in the selection of such a purpose, in the development of such a plan, than the medical profession? Continuous, intimate contact with sickness has taught it much of the needs of public health. Its organizations, like the Medical Society of the County of New York, or the New York Academy of Medicine, represent the totality of authentic medical experience.

"If an advisory relationship were established it would instantly minimize the possibility of friction between the foundations and the medical profession. There is one agency which has successfully worked out such an arrangement on a small scale. The rapport between the East Harlem Centre and the East Harlem Physicians' Association might serve as a model to larger groups.

"The principal other criticism which is directed at the foundations is less tangible, but of equal importance. The foundations must learn that their function is to provide means for the advancement of thought, not to control thought. They should encourage research, but not state what the nature of that research shall be. In the field of public health they should carry out projects conceived in conjunction with public health officers and the medical profession. They should provide facilities for the improved practice of medicine; but they must not dictate what the conditions of medical practice shall be."

MEDICAL SOCIETIES

The East Tennessee Medical Association will postpone its May meeting in Greenville until October. This action was due to having the meeting of the State Association in Knoxville in April and the American Medical Association in June. A better attendance will be assured by holding the meeting in October and the announcement is satisfactory to all.

Bedford County—At the meeting on Feb. 19th, Dr. J. T. Conditt read a paper on "Pneumonia."

Campbell County—A meeting was held on Jan. 29th. The following papers were presented: "The Significance and Management of Fluid in the Pleural Cavity," by Dr. S. S. Brown; "Report of Cases, Lymphatic Leukaemia," by Dr. H. T. Fortner.

At the conclusion of the meeting the members of the society were entertained at luncheon at the Hotel Piedmont by Dr. J. W. Pressley, of LaFollette.

Davidson County—Feb. 10th, "An Epidemiological Study of Amoebiasis in a Rural Community in Tennessee," by Dr. D. F. Milam.

"Field Studies of Human Intestinal Parasites in Tennessee," by Dr. A. E. Keller. Discussions opened by Dr. H. E. Meleney.

Feb. 18th, Dr. W. Wayne Babcock, of Philadelphia, spoke on "The Prick of a Needle." A large number of the members had dinner with Dr. Babcock at the Hermitage before the address.

Feb. 24th, "Cancer of the Colon," by Dr. J. D. Lester. Discussion opened by Dr. D. R. Pickens.

Report of case of Intestinal Obstruction from eating bran, by Dr. Murray D. Davis.

March 3d; What are we going to do with our epileptics in Tennessee? What are we going to do with our criminally insane? How are we going to take care of the increase in mental disease? Shall we build our institutions large enough to take care of the needs or shall we turn them loose on the public?

These questions were discussed by Dr. W. S. Farmer.

Dyer, Lake and Crockett Counties—The regular meeting was held on Feb. 4th. Dr. E. S. Hopper delivered his presidential address. Dr. Horton Casparis, of Nashville, read a paper on "Childhood Tuberculosis and Nutrition in Children." Dr. C. L. Denton, of Dyersburg, read a paper on "Pneumonia."

Hamilton County—On Feb. 16th, Dr. William Gerry Morgan, President of the American Medical Association, was guest of honor at a dinner given at the Hotel Patten. Doctors and laymen were invited to be present and to hear Dr. Morgan discuss medical problems.

Jan. 19th. Address by Dr. Frank H. Lahey, Boston, Mass.

Feb. 26th. "Foreign Bodies in the Bladder and Urethra," by Dr. G. M. Roberts. "Rural Sanitation," by Dr. J. C. Eldridge.

March 5th. Address by Dr. George W. Crile, Cleveland, Ohio.

March 12th. "Treatment of Gastric and Duodenal Ulcer," by Dr. Raymond Wallace. "Sinus X-Rays," by Dr. E. M. Delay.

Hardin, Lawrence, Lewis, Perry and Wayne Counties—"Ectopic Pregnancy," by Dr. C. C. Stockard, Lawrenceburg. Discussion opened by Dr. W. E. Boyce, Flatwoods.

"Skull Fractures," by Dr. Thos. D. McKinney, Nashville. Discussion opened by Drs. T. J. Stockard, Lawrenceburg, and H. C. Boyd, Waynesboro.

"Some Remarks About the Chest, Gastro-Intestinal and Gall Bladder Films," by Dr. H. S. Shoulders, Nashville. Discussion opened by Drs. W. H. Neal, Lawrenceburg, and J. W. Danley, Lawrenceburg.

"The Treatment of Squint in hildren," by Dr. J. W. Danley, Lawrenceburg. Discussion opened by Dr. J. N. Springer, Hohenwald.

Haywood, Lauderdale and Tipton Counties—The Tri-County Medical Society,composed of physicians in Haywood, Lauderdale and Tipton counties, met at the Jeff Davis Hotel, Ripley, on Feb. 16th. A good attendance was present and an interesting program enjoyed.

Humphreys County—The Humphreys County Medical Society held their annual meeting in the office of Dr. W. W. Slayden. The election of officers for the coming year resulted as follows: Dr. J. T. Cooley was elected President; Dr. J. A. Sugg, of McEwen, Vice-President, and Dr. W. W. Slayden, Waverly, Secretary-Treasurer.

Knox County—Feb. 10th. "Renal Calculi With Especial Reference to Silent Stone," by Dr. Perry Bromberg, Nashville.

Feb. 17th. "Milk Symposium."

"Milk From the Producer's Standpoint," by Mr. Robert Swatts.

"Milk From the Infant and Children's Standpoint," by Dr. Oliver Hill.

"Milk From the Adult's Standpoint," by Dr. Robert Wood.

The Sterchi Dairy Farm supplied the refreshments.

Feb. 24th. "Some Principles Dealing With Modern Conceptions of Mind and Health," by Dr. R. E. Lee Smith. Discussion opened by Dr. S. R. Miller.

Madison County—A stereoptican picture of an abdominal operation was shown by Dr. J. W. McClaren at the February meeting.

Dr. R. K. Hollinsworth read a paper on "Regional Anesthesia by Nerve Block Method in Reduction of Fractures and Dislocations."

Dr. Sam T. Parker read a paper on "Chronic Supurative Otitis Media."

Maury County—Maury County Society was addressed by Dr. P. H. Faucett, on Monday, Feb. 9th. Dr. Faucett's subject was "Some Interesting Cases of Obstetrics."

Roane County—The Roane County Medical Society held its regular meeting on Feb. 17th. Dr. T. L. Bowman, Rockwood, read a paper on "Infections of the Hand."

Robertson County—The regular meeting was held on Feb. 17th. Several interesting cases were reported. Dr. J. S. Freeman read a paper on "Asthma."

Rutherford County—The regular monthly meeting of the Stones' River Academy of Medicine was held at the Hospital on Feb. 11th. Dr. Hugh Morgan, of Nashville, spoke on "Subacute and Chronic Pulmonary Tuberculosis."

TENTATIVE PROGRAM

TENNESSEE HOSPITAL ASSOCIATION
Knoxville, Tennessee
April 13th, 1931
Ball Room Andrew Johnson Hotel
9:00 A. M.

Henry Hedden, M.D., Supt. Methodist Hospital, Memphis, President.

Mr. John H. Mauney, Supt. Fort Sanders Hospital, Knoxville, Vice-President for East Tennessee.

Miss Olivia Shortt, Supt. Clarksville Hospital, Clarksville, Vice-President for Middle Tennessee.

Eugene B. Elder, M.D., Supt. Knoxville General Hospital, Knoxville, Secretary-Treasurer.

Meeting called to order by the President, Dr. H. Hedden.

Prayer: Rev. Eugene N. Hopper.

Address of Welcome: Hon. Jas. A. Trent, Mayor of Knoxville.

Response: Mr. C. P. Connell, Supt. Vanderbilt Hospital, Nashville.

Report of Program and Entertainment Committee: Mr. John H. Mauney, Supt. Fort Sanders Hospital.

"The Duty of the Hospital Trustee": Mr. John A. McNamara, Executive Editor, Modern Hospital, Chicago.

"Medical Accounting": Miss Betty Gray, Record Librarian, Knoxville General Hospital, and Field Secretary Southern Division, Association of Record Librarians of America.

"Benefit of Hospital Organization": Dr. Bert W. Caldwell, Executive Secretary, American Hospital Association, Chicago.

Afternoon Session: General discussion and round-table talks conducted by Dr. Bert W. Caldwell.

Evening Session: Business Session.

STATE MEDICAL ASSOCIATION

Knoxville, Tennessee

April 14, 15, 16, 1931

Headquarters, Andrew Johnson Hotel

The following is a tentative list of those who are to appear on the program. This is still subject to change.

It is not possible to give all the titles because they are also subject to change.

This list is sufficient to insure a most excellent program.

President and Guests

Dr. J. B. McElroy, Memphis.
Dr. Frank Lahey, Boston, Mass.
Dr. J. R. McCord, Atlanta, Ga.
Dr. T. J. Kirwin, New York City.

A talking moving picture, entitled "Vaginal Hysterectomy for Uterine Prolapse." (Other pictures if desired).

East Tennessee

Dr. J. B. Naive, Knoxville.
Dr. A. G. Kern, Knoxville.
Dr. J. B. McCulloch, Maryville.
Dr. E. G. Wood, Knoxville.
Dr. E. B. Bowery, Johnson City.
Dr. Frederick E. Marsh, Chattanooga.
Dr. E. T. Newell, Chattanooga.
Dr. J. B. Haskins, Chattanooga.

Middle Tennessee

Dr. N. S. Shofner, Nashville.
Dr. John C. Burch, Nashville.
Dr. Robert Sullivan, Nashville.
Dr. W. C. Dixon, Nashville.
Dr. O. N. Bryan, Nashville.
Dr. C. M. Hamilton, Nashville.
Dr. M. S. Lewis, Nashville.
Dr. O. H. Wilson, Nashville.
Dr. Robt. Caldwell, Nashville.
Dr. Howard King, Nashville.

West Tennessee

Dr. R. A. Hennessey, Memphis.
Dr. W. C. Chaney, Memphis.
Dr. J. S. Speed, Memphis.
Dr. H. G. Rudner, Memphis.
Dr. R. L. Sanders, Memphis.
Dr. Tom Mitchell, Memphis.
Dr. J. C. Ayers, Memphis.
Dr. R. K. Hollingsworth, Jackson.
Dr. A. A. Oliver, Paris.
Dr. F. L. Roberts, Trenton.

TENNESSEE STATE MEDICAL ASSOCIATION

EYE, EAR, NOSE AND THROAT SECTION

Hotel Andrew Johnson

Monday, April 13, 1931, 9 a. m.

1. Chairman's address: Dr. D. H. Anthony, Memphis, Tenn. "Affections of the Salivary Glands and Their Ducts."
2. Dr. W. D. Stinson, Memphis, Tenn. "Peritracheal Abscess."

   To open discussion: Dr. W. G. Kennon, Nashville, Tenn.; Dr. A. B. Dancey, Jackson, Tenn.; Dr. F. B. Hulme, Pulaski, Tenn.
3. Dr. E . W. Patton, Chattanooga, Tenn. "What Shall We Do About Refraction?"

   To open discussion: Dr. Robert S. Leach, Knoxville, Tenn.; Dr. James B. Stanford, Memphis, Tenn.; Dr. A. M. Gamble, Maryville, Tenn.
4. Dr. J. H. Lipsey, Memphis, Tenn. "Ab-

sorption Test in Sinus Disease and Allergy."

To open discussion: Dr. W. W. Wilkerson, Jr., Nashville, Tenn.; Dr. W. D. Stinson, Memphis, Tenn.; Dr. J. L. Bryan, Nashville, Tenn.

5. Dr. E. C. Ellett, Memphis, Tenn., and Dr. R. O. Rychener, Memphis, Tenn. "Surgical Treatment of Detachment of the Retina."

   To open discussion: Dr. Carroll Smith, Nashville, Tenn.; Dr. Willard Steele, Chattanooga, Tenn.; Dr. R. H. Newman, Knoxville, Tenn.

6. Dr. W. W. Wilkerson, Jr., Nashville, Tenn. "Cebrospinal Rhinorrhea."

   To open discussion: Dr. R. G. Ashley, Knoxville, Tenn.; Dr. R. McKinney, Memphis, Tenn.; Dr. Hilliard Wood, Nashville, Tenn.

7. Dr. C. D. Blassingame, Memphis, Tenn. "Standardization With X-Ray Versus Dogmatism in Diagnosis of Sinus Disease."

   To open discussion: Dr. W. L. Simpson, Memphis, Tenn.; Dr. S. H. Long, Chattanooga, Tenn.; Dr. Fred Hasty, Nashville, Tenn.

8. Dr. R. G. Reaves, Knoxville, Tenn. "Acute Otitis Media With Pain in Trigeminal Region—Complications?"

   To open discussion: Dr. Eugene Orr, Nashville, Tenn.; Dr. T. C. Chapman, Brownsville, Tenn.; Dr. J. W. Caldwell, Nashville, Tenn.

9. Dr. W. A. Garrott, Chattanooga, Tenn. "Syphilis of the Eighth Nerve and Its Branches."

   To open discussion: Dr. Robert Sullivan, Nashville, Tenn.; Dr. H. E. Christenbery, Knoxville, Tenn.; Dr. J. A. Scott, Murfreesboro, Tenn.

   Officers: Chairman, Dr. D. H. Anthony, Memphis, Tenn.; Vice-Chairman, Dr. J. W. Wilkes, Columbia, Tenn.; Secretary, Dr. R. J. Warner, Nashville, Tenn.

NEWS OF WOMAN'S AUXILIARY

The Woman's Auxiliary to the Tennessee State Medical Association

Mrs. Milton Smith Lewis, President

Advisory Council for year ending April 16, 1931:

Dr. Joseph Gallagher, Chairman, Nashville.

Dr. Kyle C. Copenhaver, Knoxville.

Dr. J. A. Crisler, Memphis.

Dr. N. S. Walker, Dyersburg.

Dr. N. A. Laws, Chattanooga.

The series of Radio Health Talks inaugurated Saturday evening, February 14, at 5:45 p. m., over WLAC, the Life and Casualty station, at Nashville, are being well received. Mrs. Milton Smith Lewis, President of the State Auxiliary, introduced the series with a short talk on the history and purposes of the Auxiliary and was followed by Dr. Joseph Gallagher, of Nashville, who gave the paper, "Concerning the Search for Health". A week later at the same hour Dr. Milton Smith Lewis, of Nashville, gave an interesting paper on "Convulsions in Infancy and Childhood", and on February 28th, Mrs. Rogers Herbert, of Nashville, National and State chairman of Hygeia of the Woman's Auxiliary, gave her introductory talk on Hygeia. This series will be continued indefinitely at 7:30 o'clock over WLAC, the Life and Casualty station, at Nashville.

Dr. L. W. Edwards, President of the Nashville Academy of Medicine and Davidson County Medical Society, has appointed the following doctors to serve as Advisory Council to the Davidson County Woman's Auxiliary:

Dr. Robert Caldwell, chairman.

Dr. Milton Smith Lewis.

Dr. Robert Sullivan.

The Woman's Auxiliary to the Davidson County Medical Society are giving a benect luncheon following the regular monthly meeting Monday, March 2, at the Y. W. C. A., Mrs. T. C. Pollard serving as chairman.

Knox County Auxiliary elected the following officers at the yearly meeting held February 5th:

Mrs. W. A. Shelton, President.
Mrs. Walter S. Nash, Vice-President.
Mrs. A. H. Lancaster, Recording Sec'y.
Mrs. F. L. Young, Corresponding Sec'y.
Mrs. W. W. Potter, Treasurer.

Mrs. J. L. Raulston, Fountain City, reported an increased interest in Hygeia with nine new subscribers in the past month.

The ladies of Knox County Auxiliary are busy completing plans for the State Convention April 14, 15, 16. Mrs. W. W. Potter, of Knoxville, ex-president, serves as chairman-general.

The following is the official program of Woman's Auxiliary meetings as well as that of entertainment:

Tuesday, April 14th, 9-11 a.m., meeting, Farragut Assembly Room.

Tuesday night, bridge party at the home of Mrs. Oliver Hill.

Wednesday morning, 9-11 a.m., meeting, Farragut Hotel.

Wednesday, 12:30, luncheon, Cherokee Country Club.

Wednesday afternoon, trip to interesting gardens in Knoxville and to Blount mansion.

Wednesday evening, dinner at 7 p.m.

Thursday morning, 9-11 a.m., meeting, Farragut Hotel.

Thursday, 12 o'clock, luncheon at Druid Hill Tea Room, followed by trip to Smoky Mountains, making a 120-mile loop.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By Hugh Barr, M.D.
Medical Arts Bldg., Nashville

Some of the Newer Anesthetics. George S. Eveleth, M.D., Little Falls, N. Y. New York State Journal of Medicine, Dec. 1930.

The author regards ether as the safest anesthetic during administration, but thinks that the after effects are dangerous. It has been shown that any kind of anesthetic has a deleterious effect on the nervous no matter whether it is ether, chloroform, nitrous oxide, spiocaine, avertin or the barbiturates.

The author cites two series of cases. The first under spinal anesthesia, which he regards as the most ideal as it can be used with safety and leaves little or no after effects. In his series in which he used avertin by rectum, he found that it was a good basal anesthetic, but required various amounts of ether in the majority of cases.

The anesthetic should be chosen to fit the patient. In the past this has been done to a certain extent, but with the introduction of the newer anesthetics, it would seem to be a practice worthy of more general adoption.

DERMATOLOGY

By E. E. Brown, M.D.
Doctors Building, Nashville

Intradermal, Scratch, Indirect and Contact Tests in Dermatology, by Drs. M. A. Ramirez and J. J. Eller. Journal of American Medical Association, October, 1930.

Upon five hundred patients with dermatosis in which an allergic origin was suspected, they used four types of tests and from two to four hundred tests were done on each patient. In some cases the results were disappointing, but in others they were quite valuable. The indirect method on the whole seemed to be most preferable. In some cases, however, the authors favor the patch test method, particularly in cases due to nonprotein irritants. The intradermal method seemed to be the most sensitive. It is also apt to produce alarming systemic reactions in certain patients.

The Treatment of Carbuncles by the Roentgen-Ray, by Drs. Richard U. Light and Merrill C. Sosman. New England Medical Journal, September, 1930.

Fifty cases of carbuncles treated by irradiation in the past six years were reviewed. Filtered x-ray in from one-third to one-half erythema dose was used. Thirty-four of these patients were improved. Seventy per cent of these cases were in males and of these the Roentgen ray helped 60 per cent, while of the females 87 per cent were improved. The action of the x-ray seems to hasten necrosis of the lesion in the indurated stage. They also feel that a larger proportion should have been treated with radiation alone.

Injection of Whole Blood for Furunculosis, by Dr. D. W. Bruce. British Medical Journal, October, 1930.

Dr. Bruce tells of his experience in the use of whole blood in cases of recurrent furunculosis. He uses five cubic centimeters. The blood was withdrawn from the vein and injected immediately intramuscularly in the buttock. The success was remarkable. Boils dried up within twenty-four hours and new ones were prevented.

INTERNAL MEDICINE

By R. B. Wood, M.D.
C. J. Carmichael, M.D.
Knoxville

On the Pathogenesis of Grave's Disease, by David Marine, M.D., Am. Jr. in Med. Sc., Dec., 1930.

Prefacing his remarks on the etiology of this disorder, the author states his belief in a well-appointed partial thyroidectomy as the best means of relief, but does not believe it rational therapy, as one must look beyond the thyroid as the cause of the malady.

A suggestion to divide Grave's disease into acute and chronic and divide each heading into complete and incomplete was made.

He believes the pathologic anatomy has been over-emphasized. That the significance of thyroid change is constant but not specific. Allowing for the stage of the disease and the age of the patient, hyperplasia will eventually occur if not inhibited by iodine. The hyperplasia of endemic goiter does not differ from that seen in other clinical associations and will be involuted by iodine as will other types.

Attention is called to the hyperplasia of the lymphoblastic tissues as thymus, spleen and regional lymph glands, these being thymic hyperplasia in 75 per cent of complete Grave's disease in those under 30 years of age. Differing from some, the author believes, rather than a cause, this is an antagonistic reaction against excessive thyroid secretion or a compensatory reaction against some suprarenal-gonadal insufficiency. Removal of thyroids hastens atrophy of the thymus, while removal of the suprarevals in animals causes regeneration of the thymus and a clinical picture resembling status lymphaticus. In Grave's disease the suprarenals are usually small and also frequently found are astrophic changes in the liver of a cirrhotic nature.

As support to the opinion that Grave's disease is due to some deficiency of the internal secretions of the suprarenals and gonads, the author points out:

1. That it occurs more often in females about the period from puberty to the age of thirty, or in the period of sexual decline.

2. By sublethal injury to the suprarenals of rabbits and cats a symptom complex resembling Grave's was produced.

3. Newborn infants possess an unusually large suprarenal cortex which begins to involute about the eighth day of extrauterine life and coexistent with this metabolism studies reveal a rapid increasing in heat production.

4. Feeding of a glycerol emulsion of very fresh ox suprarenal cortex caused a striking gain in weight and muscle strength in over 50 patients having active Grave's disease.

5. Reference is made to a patient suspected of having had retroperitoneal sarcoma and who had prolonged deep Roentgenray therapy. After two years the patient developed symptoms of Grave's disease which were relieved by a partial thyroidectomy.

The author concludes that the most outstanding manifestation of Grave's disease is clearly a loss of control over the oxidation processes and as a result there occurs a physiologic attempt toward compensation by an increased thyroid hormone.

OBSTETRICS

By James R. Reinberger, M.D.
416 Medical Arts Bldg., Memphis

Placenta Previa. A. H. Bill, M.D. Amer. Jour. Obs. and Gyn., February, 1930.

The ultraconservatism in the practice of obstetrics which has been characteristic of the medical profession of this country, has been much in evidence in the treatment of placenta previa. Reluctance to adopt measures which seem radical has no doubt in some instances served to retain a proper balance of obstetric procedure. However, in other instances it has retarded progress and definitely caused the continuation of high mortality by encouraging adherence to obsolete methods.

One of the greatest advances in modern obstetrics has been in the treatment of placenta previa, and still some of the reports from the clinics are discouraging when noting that some of the older methods are still involved and that the only difference in the treatment of twenty-five years ago is the elimination of accouchement force. Removal of cases from the reports done by accouchement force which always carried from 30 to 60 per cent mortality in central placenta previa, still leaves the average mortality of 10 per cent. Three methods should be advised in the treatment of complete or partial placenta previa: (1) Cesarean Section; (2) Cervical Bag; (3) Braxton-Hicks Version.

Comparison of the clinic mortality reports divided his study into two groups, the older methods chiefly used in the first group of series with maternal mortality as follows: Broadhead, 10 per Irving, 3.5 per cent; Luth of Coblenz, 14 per cent; Ramos, 7 per cent; Ledoux, 12 per cent, cent, etc. With equally as high fetal mortality against a series treated by Cesarean Section, by Frey, 2.53 per cent; Henkle, 1 per cent; DeLee, 44 cases, no deaths, and Bill, 1 per cent, with a proportionate lessened fetal mortality.

He concludes that the only uniformly satisfactory results are seen in cases treated by Cesarean Section, and especially when combined with prophylactic blood transfusions in cases where there is little or no dilatation and that maybe marginal placenta previa a multipara with complete dilatation may be handled by Version and forceps. Trauma to the cervix and actual injury to the placenta sight combined or alone with general atony of the uterus followed by postpartum hemorrhage resulting from hemorrhage and shock were the chief causes of death. Stress is placed upon transfusion immediately before or during the delivery in cases where the blood pressure is below 100 or R.B.C. or less than 3,000,000. The variety of placenta previa does not concern the author for he is more interested in the mere fact of its existence to arrive at its positive diagnosis. He advises abdominal palpation and rectal examination. He reports 104 cases of placenta previa with one death and explains this one caused by the stubbornness of the patient to grant permission for operation or to act as a donner. The fetal mortality shows that two-thirds of the babies were saved.

The reviewer has watched Dr. Bill's figures since his first study and has carried out his method of treatment for some years. He has watched the treatment of the older methods and is sure that the same results can be obtained if every physician recognizes this step forward.

OPTHALMOLOGY

By Robert J. Warner, M.D.
Doctors Building, Nashville

Development and Morphology of the Canal of Schlemm. R. Sondermann. Arch. f. Ophth., July, 1930.

The primordium of the canal of Schlemm is a system of radial vessels which during the first and the second half of the third month carry the blood from the tissues in front of the margin of the eye cup toward the ciliary veins. A primary circular vessel cannot be seen. The radial vessels go along the inner surface of the sclera and finally enter the sclera. This part of the vessel becomes (apparently because of increased pressure) ectatic, while the rest of the vessel obliterates. The ectatic parts communicate with each other by ectatic capillaries, and thus the canal of Schlemm is formed. This mode of development explains why in the adult eye serial sections of the region of the canal of Schlemm show alternatingly one large lumen and several small "plexus"-like lumina. The spaces of the pectinate ligament communicate with the canal of Schlemm by means of small canaliculi (inner canaliculi) which usually empty into the canal near its posterior end. The canaliculi which communicate with the anterior ciliary veins (outer canaliculi) leave the canal near its anterior end.

ORTHOPEDIC SURGERY

By Robert F. Patterson, M.D.
Acuff Building, Knoxville

Complete Rupture of the Supra Spinatus Tendon. Philip D. Wilson, American Medical Association, February 7, 1931.

This article recounts the author's experience in treating ten cases of rupture of the supra spinatus tendon in the past two years. He is convinced that it occurs with great frequency.

In order to understand the symptomatology and pathology, one must remember that the capsule of the shoulder is inseparable from the flat expanded portion of the supra spinatus, infra spinatus and teres minor muscles. Therefore, rupture of the supra spinatus tendon exposes the head of the humerus beneath the subachromial bursa as it forms part of its floor. The function of the bursa is to permit easy gliding of the head of the humerus beneath the acronion while the function of the supra spinatus is to pull the head under the acronion process after partial abduction fixing the head against the glenoid cavity. It will be readily seen that abduction is seriously impaired by this injury. Secondary changes are formed in the region of the bursa and in the edges of the torn muscles which retract widely.

It occurs usually in adults produced in one of two ways; either by muscular strain during abduction or by a direct blow on the shoulder as by a fall with or without dislocation. Little pain is usually associated with the injury, but weakness of abduction is soon apparent and atrophy, especially of the supra spinatus soon becomes noticeable. Continued shoulder disability after an injury should make you suspect this lesion.

The operation described has proved effective in relieving the disability.

He uses the "sabor cut" incision of Codman. First, however, he explores the bursa through a two-inch incision extending downward from the achromio-clavicular joint, splitting the deltoid fibers—small rents may be repaired through this incision.

The base of the achromion is cut through after making "sabor cut" through skin and the outer flap is retracted, fully exposing the joint. The ends of the retracted tendons are exposed and thickened edges removed.

A channel is next cut with an osteotone transversely in the anatomic neck of the humerus and inner face of the greater tuberosity 1¼ inches wide and ¾ to 1½ inches long with a 3-16 inch drill, holes are drilled through lateral surface of the humerus below the greater tuberosity. A strip of fascia lata is now used to fasten the free edge of the tendon to the humerus by means of matress sutures passed through the drill holes. At the end of four weeks the abduction splint is removed and physiotherapy is begun. One case is reported in detail.

PEDIATRICS

By John M. Lee, M.D.
Doctors Building, Nashville

The Chest in Rachitic Children. Ralph S. Bromer, M.D., The Jour. A. M. A., Feb. 11, 1931.

Seventy-eight patients ranging from 5 months to 4 years of age, showing varying degrees of rickets of the chest, were studied clinically and roentgenographically. It was concluded that mild rickets of the chest is not dangerous to life and does not increase the hazard from pulmonary infections. The mortality rate of those cases showing moderate rosary with no deformity does not seem to be greater than the usual rate found in the average patients admitted to hospitals with pneumonia showing no rachitic involvement of the chest. With increase of the deformity of the chest, the mortality rate rises proportionately, especially is this true of an increase of the degree of pliability of the chest wall.

The usual type of atelectasis due to rickets can easily be recognized in the roentgenogram by its characteristic location. Small scattered areas of atelectasis are indistinguishable from bronchopneumonia, but the absolute differentiation between the two is not of great clinical importance from the standpoint of prognosis, as the two conditions are equally dangerous.

Bronchopneumonia occurs more frequently than lobar pneumonia and is of much greater frequency in the cases exhibiting severe involvement of the ribs and chest deformity.

SURGERY — GENERAL AND ABDOMINAL

By John L. Dies, M.D.
1213 Exchange Building, Memphis

Contractures of the Hand. Summer L. Koch, M.D., F.A.C.S., Chicago. Surgery, Gynecology and Obstetrics, Feb. 15, 1931, No. 2, Vol. LII. pp. 367-370.

In discussing the subject of contractures of the hand, I wish at the outset to make it clear that I can claim but little credit for the work that has been done and the results that have been accomplished. The major share of the credit belongs to Dr. Kanavel, and to the various men who have been associated with him from time to time; and among them, particularly, Dr. Michael Mason. It is scarcely necessary to add that our group owes a great deal to the outstanding work that has been done by other surgeons working in this and in related fields. Blair, of St. Louis, and Davis, of Baltimore, particularly, have taught us how to transplant skin and subcutaneous tissue safely. Mayer, of New York, and Bunnell, of San Francisco, have contributed much to the surgery of the tendons; the entire group of orthopedic surgeons of our country and others have contributed to the surgical treatment of tendon fixation and ankylosed joints. We have adopted their ideas freely and tried to utilize them in the treatment of contractures of the hand.

Acquired contractures of the hand may be due to many causes, but by far the most important are infection and injury. It is this group of cases which we wish to discuss this evening.

Of first importance is the question of prevention. Contractures result from scar tissue formation. Scar tissue is formed after normal tissue has been destroyed; for example, after a burn, or a crushing injury. It is formed as a diffuse inflammatory process, such as a cellulitis of the hand or a tendon sheath infection, subsides; it is formed if only tissues which normally are subject to free and constant movement are kept immobilized for more than three or four days. Familiar examples are the fibrosis that develops in fingers which are fixed in extension because of a fractured phalanx or metacarpal, or the fibrosis that develops, perhaps not quite so promptly, about any joint which is immobilized because of a fracture in its vicinity.

With these causes of fibrosis and scar tissue formation in mind we may formulate a few principles of importance in prevention: First, not to wait for large raw surfaces, which result from burns and crushing injuries, to heal spontaneously. If such surfaces are covered at the earliest possible moment with skin grafts time is saved for the patient, the constant danger of reinfection is eliminated and the formation of scar tissue is reduced to a minimum. A second important principle in prevention, and one which can scarcely be overemphasized, is early mobilization. If fibrosis can develop after simple fractures when no infection is present, it is obvious that the presence of an inflammatory exudate hastens and accentuates the process, and that in the treatment of a hand infection early mobilization is an important feature of adequate surgical care if contractures are to be prevented.

When contractures have already developed, the treatment varies with the anatomical structures involved. There may be involvement of skin and subcutaneous tissue only; there may be involvement of tendons alone; there may be involvement of the median and ulnar nerve; there may be involvement of joints of fingers, hand or wrist; finally, there may be involvement of several or all of these structures, and these complicated cases with injury and fibrosis of covering tissues, tendons, nerves and joints are of all the most trying and most difficult.

For contractures due to the loss of skin and subcutaneous tissue we have invariably resorted to some form of skin grafting to replace the lost tissue. For contractures of the palm, as a result of our own experience and that of others, we have to use in the majority of cases the free full thickness graft. For contractures due to firm scar tissue between the thumb and index finger and contractures involving the dorsum of the hand alone the tube flap affords a very satisfactory method of securing a covering of normal tissue. For contractures involving the dorsum of fingers as well as the hand a pocket flap on abdomen or thigh is useful.

The fourth group of contractures, those due to injuries of the peripheral nerves in or near the hand may well be included with the fifth and last group, the complicated contractures, for injuries of the nerves alone are relatively uncommon; they are almost always associated with injuries of the tendons.

The fifth, the last and most difficult group of cases, the complicated cases, are usually the result of one of five types of injury. These are (1) burns from fire, gas or gasoline explosions, high voltage currents or repeated x-ray exposures; (2) trivial injuries which result in severe and spreading infection; (3) glass cuts, which frequently result from automobile accidents and most commonly cause a laceration or division of the flexor tendons and of the median and ulnar nerves at the wrist; (4) crushing injuries, and (5) gunshot wounds.

Complicated cases frequently require multiple operation. It may be necessary first of all to substitute a covering of normal tissue for the dense superficial scar which limits the mobility of structures whose very function depends on freedom of movement. Joints which have become ankylosed must be freed. Tendons which are bound together by scar tissue must be released; tendons which are destroyed replaced, nerves which control motor and sensory and trophic function must be released from scar tissue which strangles them; if they have been divided they must be sutured end to end.

Along with these operative procedures well directed and skillfully applied physical therapy and the use of properly designed splints which bring elastic tension to bear on contracted tendons and stiffened joints are important factors in securing a successful result.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,
and F. K. Garvey, M.D.
Medical Building, Knoxville

Cauculus of the Upper Urinary Tract. The American Journal of Surgery, September, 1930, A. R. Stevens, M. D., and C. W. Collings, M. D., New York.

The authors present their findings on 70 patients operated in Bellevue Hospital for upper urinary calculus. They also give their views on certain problems encountered in this series.

Of a total of 317 patients discharged with a diagnosis of upper urinary stone within the last six months, 154 had rental involvement. The remaining 153 were ureteral. Forty-eight of the 164 renal, or 30%, were operated, while only 22, or 14%, of the ureteral were operated.

The symptoms were in the following order: Pain in loin, 80%; abdominal pain, 15%; urinary frequency, 12%; hematuria, 10%. Twelve per cent with right renal stone had had appendectomy probably because of ureteral pain.

Function was reduced in 70% of the kidneys harboring stones. Infection was present in 85% of the cases.

Pyelographs showed dilatation of pelvis or calices in 95% of cases, but rarely showed kidney destruction. The incidence of bilateral involvement was not given in this review.

Operation was done under spinal or spinal supplemented by general anesthesia. The stay in the hospital was 15 to 19 days in 40% of cases, 20 to 28 days in 40%, and four weeks or over in 20%.

The 57 operations carried a mortality of 15%. This is explained by the fact that many patients were in a grave condition before seeking relief.

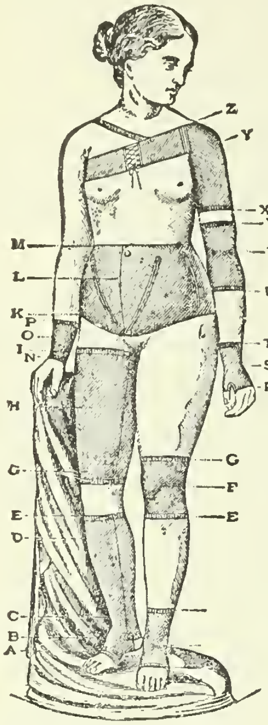
Of the 22 operated for ureteral calculus, pain was the outstanding symptom. Hematuria occurred but twice. Urinary frequency was conspicuously absent, being present but once.

Catheters were passed beyond the stone in all but four cases, and renal function obtained. There was a decrease in all but one case. Infection was present in 11 of the 15. Operation was done under spinal anesthesia in the majority of cases.

The stay in the hospital was 18 days in 14% of the cases, 20 to 29 days in 50%, while 36% remained 30 to 40 days. There was no mortality.

The authors offer the following opinions concerning handling of urinary stones:

1. Indications for operation are: Diminishing function, increasing infections, anuria, ureteral stone over 1 cm. in size, persistent pain, and recurrent hematuria.
2. That all ureteral stones should ultimately be removed, either by cystoscopy preferably, and
3. In case of bilateral kidney stones the better kidney should usually be operated first.



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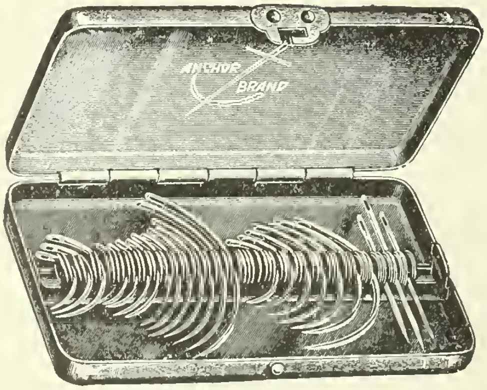

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THE TREATMENT OF BENIGN LESIONS OF THE CERVIX UTERI*

WM. T. BLACK, M.D., F. A. C. S., Memphis

THE cervix, although a part of the uterus, differs from the corpus uteri in so many respects that it can almost be treated as a separate organ. It is developed from the Mulleran ducts like the corpus, but histologically, physiologically and pathologically it differs from it materially. The small amount of its musculature and its abundant fibrous tissue with a large number of compound racemose glands (Naboth) and a comparatively poor blood supply renders it quite different histologically from the corpus.

It does not enter into the function of menstruation. The alkaline secretion from the Nabothian glands helps to neutralize the vaginal acid secretion, so as to preserve the life of the spermatozoa. It assists the Bartholin's glands in lubricating the vagina and outlet. It affords a bridge over which the spermatozoa may travel into the cervical canal. The epithelial coverings are of two varieties, the single layer of cylindrical cells lining the endocervix and the many layers of squamous cells lining the vaginal portio and at times extending up into the endocervix. Its location renders it susceptible to traumatism and infections. It is primarily infected with the Neiserian organism oftener than any other organs. Infections of the urethra and Bartholin's glands are often conveyed to the cervix by coitus, douches, examinations, etc.

The trauma due to the expulsion of fetal structures, the use of forceps and manual dilatation, as well as surgical dilatation, often causes lacerations. Goff says, "Forty per cent of primiparae have lacerated cervices." This lacerated area is covered over by transitional epithelial cells. The open canal from the tear renders it susceptible to the streptococcus, staphylococcus, colon and other bacteria. After lacerations the changed epithelial cells offer less resistance to the too often infected endocervical glands, which pours out a muco-purulent discharge (leucorrhea), which produces an erosion. Leucorrhea, which is the most frequent gynecological symptom complained of by women, has its origin in the endocervix, although a discharge produced by the trachamona vaginalis must not be overlooked. This discharge often plugs the external os and prevents the passage upwards of the spermatozoa. The normal secretion is changed chemically and is infected, which acts as an irritant to the epithelial coverings. The cylindrical secreting epithelial cells resist the irritating discharge, unless continued for a long time or unless you have a severe infection.

Erosion is the exception in the cervical canal unless the squamous epithelium extends up into the canal. There are several layers of the squamous cells, the outer covering being rather resistant, flat and tough. If a severe infection is present, however, the cells become macerated and a typical erosion occurs.

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*Read before the West Tennessee State Medical Society, Jackson, Tenn., May 15, 1930.

Under proper treatment the polyhedral cells developed from the basal cylindrical cells, or younger cells, which have developed as the result of an inflammatory exudate, causing the squamous cells to grow and cover over the erosion which has been produced. Baily thinks that it is from these younger cells following infection, which is the starting point of epithelial invasion, or carcinoma.

Severe irritation over a long period of time occasionally affects the cylindrical cells, which have developed in an effort to heal an erosion after the resistant older squamous epithelial cells have become macerated. Whether the irritation is due to a virus circulating in the blood stream or whether acting locally, as suggested by Blair-Bell, Gye, and others, makes no difference as to the pathology produced. A normal metaplastic condition will take place if the irritation is treated in time, but "anaplasic atypia" occurs if a severe infection is allowed to continue acting upon these younger cells and a cancer may be the finale.

Thirty per cent of cancers in the female occur in the cervix. Chronic endocervicitis with its muco-purulent discharge, is the predisposing cause of cancer in the cervix in 70 per cent of cases, according to Ewing, Ward, Polesi and others. Endocervicitis is often the focus of an infection.

One should recognize the grave significance of erosions of the cervix and treatment instituted while the lesion is a benign one. Neisserian infection is the predominant agent responsible for chronic endocervicitis in the majority of instances. Lacerations of the cervix offer a fertile field for infection to occur.

Lacerations of the cervix, submucus fibroids, mucus polyps, tuberculosis, stenosis, etc., also play their part in inviting infections to the cervix. In the treatment of benign lesions of the cervix one must extirpate fibroids, polyps and other tumor formations. Repair of the cervix in the third stage of labor will reduce infection of the cervix materially. Treatment of laceration, age of the patient, and the amount of pathology present in the cervix. Those who have reached forty, or past, with a hyperthrophied cervix with cystic degeneration, with a bad endocervical discharge; or if there is present a severe laceration or multiple lacerations, an amputation should be performed. In those with a minor laceration, cauterization is the treatment of choice. In those under thirty-five years of age, with extensive lacerations, tracheloplasties should be performed. Biopsies should be obtained in repair work on the cervix and cultures made to determine the nature of the infection before deciding what treatment should be instituted. In severe laceration, and when badly diseased, local treatments should be given preparatory to operation. In moderate lacerations where it is questionable whether to repair or cauterize, the speaker has decided in favor of the latter. If the streptococcus is present, cauterization is the wisest procedure.

Cauterization is advocated in preference to a repair in minor lacerations for the following reasons:- first, it cures the lacerations and infection; second, because cancer has not been reported to have occurred after a cauterization.

In patients who have not had their cervices traumatized, and suffering with chronic endocervicitis, cauterization of the endocervix will relieve the condition irrespective of age. In a few instances in younger women with gross or multiple lacerations, a modified Sturmdorff operation is indicated; likewise in cases with extreme hyperthrophy.

In a report by Pemberton and Smith, they cite 5,962 diseased cervices in which the following procedures were adopted: 3,814 had trachelorrhaphies, 740 amputations, 1,408 cauterizations. The follow-up of these cases revealed the fact that cancer occurred in five cases in which repair work had been done and none where amputations or cauterizations were performed. In a later report twelve cases of cancer occurred after 669 trachelorrhaphies. Leon reported that three developed cancer after 613 trachelorrhaphies. From the above report and the experience of others, conclusive evidence has definitely proven that cauterization should be performed in preference to trachelorrhaphies in suitable cases. Badly diseased cervices will be restored to normal in appearance after cauterization. From a curative and economical standpoint cauterization should be performed whenever feasible in these cases. Many can be cauterized in your office, while bad cases should be hospitalized; a gas anaesthetic given so that the cervix can be thoroughly dilated and cauterized. The danger from hemorrhage is less than from repair work and their stay, when necessary to enter a hospital, reduced to a minimum.

The speaker has only had four or five cases of hemorrhage which was sufficient to justify a vaginal pack out of several hundred cauterizations. Certainly hemorrhage occurs in less than one per cent of the cases and if it does occur it is easily controlled by a vaginal pack. Hemorrhage can be lessened by advising the patient to abstain from sexual trauma, too severe exercise, and a careful introduction of the speculum for the first few days after cauterization. One should avoid passing the internal os in cauterization and also in the after treatment, for cauterizations are not without danger. Cases of streptococcic infection have been known to die in less than five days from general peritonitis and rarely does a pelvic cellulitis occur. Hemorrhage and stenosis must always be thought of.

A dryness produced by a destruction of the Nabothian glands must be thought of. Although this mucinous material coming from the endocervix is helpful from the standpoint of lubrication and prolonging the life of the spermatozoa, yet this must not be seriously thought of, as it is not a normal mucus secretion. Contrary to producing sterility the speaker has had a few to become impregnated after cauterization of the cervix. Stenosis, which is the big bug-a-boo, following cauterization, must be thought of. Stenosis is more apt to occur in those having amenorrhea. A definite post-cauterization treatment should be followed. Patients are requested to report in at least one week for inspection. At this time the external os is plugged up by an inflammatory exudate, a detachment of which is carefully guarded against. A local antiseptic is applied to the external part of the cervix. In another week the patient is requested to return and at this time necrosis is taking place and care must again be judiciously followed out to prevent hemorrhage. At this time a 20% Mercurochrome solution on an applicator is introduced into the endocervix. The patient is treated weekly for three or four weeks. After necrosis is complete and healing is taking place dilatation of the cervix with a dressing forcep is aseptically carried out with the application of an antiseptic. A small piece of cotton saturated with a 20% solution of Mercurochrome is pushed up into the endocervix. Occasionally a closure of the external os occurs with an accumulation of pus and debris above the stenosis which yields readily to the above technique. In only two or three cases has the speaker had a serious stenosis and in one instance in particular almost a complete stenosis occurred. In this case the patient did not return for four months after cauterization. The patient should always be instructed about the increase in discharge for a few weeks, also of the danger of hemorrhage and stenosis and advised to see her physician if she is not a resident of the town in which the cauterization was performed.

Cauterization of the acute endocervicitis will cut short a gonorrheal infection and preclude the gonococcus entrance into the uterine cavity. Of course, sexual abstinance with an infected mate and the proper treatment of the urethra and Bartholin glands should be emphasized.

The proper cauterization of the cervix will cure small lacerations, remove the focus of infection, relieve the leucorrheal discharge and prevent development of carcinoma of the cervix. Arthritis will often clear up and the general condition of the patient improve. She will be relieved mentally as well as physically, and the physician will have as the result a happy and appreciative patient.

FOUNDATIONS AND THEIR TRENDS*

SAMUEL J. KOPETZKY, M.D., New York, N. Y.

THE struggle of the individual against engulfment by the mass is almost as old as the story of mankind. From the earliest days of man's association with his fellows in social, political and economic union, *two* divergent trends have been visible. On the one hand, we have seen the desire of the individual to strengthen and perpetuate his individuality, to think independently and, within the limits of social order, to act freely and without the interference or coercion of external forces. On the other side have been those who seek to standardize society, to organize a strong central authority and reduce the individual to the impotent role of a marionette. The former group is concerned with thought and action *per se*. The latter is more interested in the formation of bureaucracies to standardize thought and regulate action. The second group has given society administrators and organizers. Genius springs only from the first. The great artists, adventurers and scientists who have left their impress on the history of the race have walked alone, often in open rebellion against a world which sought to shape them to the common mold.

As civilization has developed and society grown more complex, the trend to standardization has become more marked. As man began to live and work in ever larger groups, it became expedient to define a certain form of conduct. This definition of what society expects of the individual was useful in setting minimum standards. Had it remained a mere starting point for activity, the most confirmed individualist could have had no quarrel with it. Unfortunately, instead of serving merely as a social instrument, standardization has become an end in itself. In every field there is evident a tendency to suppress personal initiative and build up a machine in which the individual is a subservient and indistinguishable cog.

Up to the present century, medicine had escaped the subjugation of the individual to the herd to a remarkable extent. The essential quality of medical practice was such as to set a premium upon individuality. In its beginnings, when healing was an attribute of the priesthood, it was upon the personality, imagination and capacity of the individual healer that success or failure hung. As the scientific foundations of modern medicine were slowly and painstakingly laid throughout the centuries, it was again individual penetration and resourcefulness that kept the art of medicine alive, and gradually penetrated the secrets of health and disease. Even after the establishment of medicine upon its present basis at the end of the last century and the early part of the present one, the remarkable strides made have been due, not to carefully controlled bureaucratic activity, but to the genius and vision of a few gigantic minds that, usually alone and unaided, stormed Olympus to bring back a little of the divine fire to man.

In the course of the present century, however, a perceptible drift has set in away from individualism in medicine. The standardization of medical education, an eminently desirable and necessary step in itself, has proved the forerunner of an attempt to standardize medical practice—an eminently undesirable and unnecessary sequel. The large, highly centralized organizations that characterize modern industry are being parodied in modern medicine. Whereas a doctor and a patient were formerly the two essentials in the treatment of disease, today vast, impersonal organizations have been built up which stand between patient and doctor and destroy the personal contact and knowledge that are essential to successful healing.

There are several factors in this new and unhealthful trend. One is the rapid and uncontrolled growth of specialism, with its seizure of the popular imagination. A public which had deserted general medicine was easily enticed by corporate groups which advertised all kinds of special examinations and laboratory tests for a flat fee. Impressed by the elaborate paraphernalia invoked for the disparate and detailed scrutiny of his anatomy, the patient rarely realized that the ultimate in healing cannot be obtained by a system which translates complex, living beings into a series of reports, and the doctor into a mere agent to contribute to, or summarize, those reports. What does it mean to the average layman that not a single scientific discovery has emanated from the Life Extension Institute, for example, or other similar adventurers in medical mass production and coordinated healing?

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*Read before the Medical Society of the County of New York, February 23, 1931.

Another element in the diversion of the public from private practice has been the steady growth of governmental health services. Commendable and indispensable as these are in many respects, they have often been notoriously indiscriminating in selecting the subjects of their benefactions, with the result that the public is taxed for medical service to many who can well afford to pay; and more and more doctors are forced into a field which gives little opportunity for their individual development. The small number of physicians in the public health service who have made notable original contributions to healing is another gauge of the deadening influence of bureaucracy in medicine.

Still another factor in the gradual suppression of individualism in medical practice is the increasing control which the large philanthropic foundations exercise over healing. While some of them have made notable contributions to medical education and scientific research, in their experiments with the actual distribution of medical service their activity is one of the serious menaces confronting the private practice of medicine today. Their influence begins in the medical colleges, extends to the public health service and continues in costly and unproductive experimentation with the conditions of medical practice. It is this phase of the problem that I shall discuss this evening.

In examining the aims of the different foundations, one is immediately struck by the breadth and vagueness of their avowed purposes. The goal of one is "the well-being of mankind," of another "to improve the physical, mental and moral conditions" of the race. While this flexible purpose is of marked advantage in keeping the vast funds of the organization available for whatever need arises and prevents the "freezing" of trusts, it has its weakness. The administrative heads, confronted with the need to make an impressive showing in their annual reports and not having a fixed direction in which to move, fritter away thousands of dollars in inconsequential work.

Laski writes of one foundation which "produced a single volume at a cost of eighty thousand dollars"; and he dismisses that volume with the laconic comment that it is hardly epoch-making. Another notable example is the Heckscher Foundation, which has built up an elaborate machine for the performance of periodic health examinations in children, only to find the demand for such a service completely wanting. Even with fifty invitations sent out daily to members, no more than fifteen to twenty-five examinations are performed each day; and thousands of dollars' worth of fine equipment lies idle.

The well-being of mankind being inextricably interwoven with good health, it is natural that most of the philanthropic foundations having the former general purpose should center a large part of their activity in the latter field. Here, too, the approved method of selecting an object appears to be trial and error. Indubitably the physician is the central figure of any enduring health program, yet the organizations representing the medical profession are rarely utilized in their logical advisory capacity. Instead of figuring as the central figure in the health scheme, the doctor is subordinated to administrative considerations. His attitude toward healing is ignored; his interests disregarded.

It is natural that the physician, who

spends his years among the stricken, should consider medical practice essentially as the problem of healing the sick, and, more latterly, of preventing disease. It is no less natural that the foundations, whose influence rests on their financial strength, should consider disease a bad economic habit which can be corrected by spending large sums of money. Undoubtedly poverty and the unhealthful living which it engenders are important contributory factors in the production of disease. From that point of view, the foundations, with their limitless resources, could accomplish more for health by fostering hygienic and healthful living conditions than by conducting expensive and inconclusive health demonstrations in districts where the very manner of life is an affront to health principles. A foundation which introduced sanitary plumbing, adequate heating and lighting, good ventilation and clean streets into one of its demonstration districts could effect a considerable saving in doctors and nurses and have a tangible result to which to point.

Rappleye, Dean of Physicians and Surgeons and Director of Study of the Commission on Medical Education, has said—and he has been supported by many others in his stand—that "any plan, whether developed from within the profession or imposed upon it from without, that lessens the responsibility of the trained physician in the care and treatment of patients or denies him the rewards of individual effort and superior ability, will, in the long run, be detrimental to the public welfare." Many well-intentioned foundations are guilty of both these faults. In their interest in administration, statistics and social research, they place the physician at the outskirts of a highly centralized organization. Lammenais aptly describes the consequences of such a situation when he states that "centralization results in apoplexy at the center and anemia at the extremities."

On the second charge, that of interfering with the rewards of practice, the guilt of the foundations is often no less real for being unintentional. In their social experiments they subsidize agencies that come in direct competition with the practicing physician; for few, if any, have any effective methods for determining those who are eligible to free care or take pains to reject the ineligible. The Heckscher Institute, for example, offers its facilities for periodic examination to all children who are members, regardless of the financial status of their parents. The organization receives a small membership fee, but the doctors who perform the examinations get no compensation whatsoever for their service. So with the New York Tuberculosis and Health Association, which makes no inquiry into the earning capacity of those sent to it for examination and counsel under its industrial advisory plan, but accepts all employes referred by affiliated concerns. The Milbank Memorial Fund has never explained satisfactorily how it selects those who are financially eligible to the various health services which it sponsors in its demonstration areas, although it subscribes in principle to the theory that those who can pay should go to their family doctors.

In justification of such practices, the argument is sometimes heard that the lay foundations are obliged to undertake the various preventive services, because physicians are unable to handle that type of work. On this score it need only be said that the foundations themselves play a large part in the control of medical education; and the doctors that are turned out represent to a considerable extent their idea of what a doctor should be; for, as Laski states in his article on foundations and universities, even though the foundations make no deliberate effort to exercise any control over the colleges, the very fact that a fund is within reach "permeates everything and alters everything. The college develops along the lines the foundation approves." In any case, in the last analysis, it is a physician who performs the actual service; and there is no reason to believe that a medical man working under lay direction is any better fitted to discharge his duties than a doctor whose individual practice has developed his judgment, initiative and resourcefulness.

In an address on "The Future of Medical Practice" delivered at the dedication of a

Boston Health Center last year, Dr. Lee K. Frankel advances the suggestion that modern medicine should apply organization methods comparable to the mergers and unions which are industry's remedies against waste and inefficiency. He is good enough to add that the appraisal which must take place before such changes can be effected must come from within the medical profession itself. It is this privilege, this necessity, of self-appraisal which physicians demand. At the present time the medical profession is by no means convinced—and it is not alone in its doubts—that super-organization produces the best in medicine. As Laski says, speaking of the disadvantages of the cooperative research sponsored by the foundations, "The great discoveries do not, somehow, seem to have come in this way. . . . It is an immense superstructure without due bed rock in the facts of intellectual creativeness. We are in danger of paying a price for its erection that we are ill able to afford."

A more direct form of competition on the part of the foundations is the sponsorship of groups and pay clinics to treat what is vaguely defined as the white collar class. The Twentieth Century Fund has recently been toying with the idea of a "medical guild" to treat the middle class at less than the current rates. It points to the Mayo Clinic as an example of the economic advantages of group practice. The fallacy of its argument is obvious. The Mayo Clinic may be known for the quality of its service; it has never been famed for its cheapness. Even the Cornell Pay Clinic, which has been partially financed by a foundation, has never been able to prove that it gives a better grade of service than its patrons could receive in private practice at a comparable cost. The service Cornell Clinic offers is in the same class as that provided at far less cost by the out-patient departments of most Grade "A" hospitals.

As a matter of fact, no self-supporting venture into group practice in New York City has demonstrated its ability materially to lessen the cost of medical care. A subsidized group, on the other hand, is in direct and unjust competition with the private practitioner. No doctor who must depend on his professional earnings for a livelihood, and who must defray his office, personal and civic expenses from those earnings, can compete with an organization that is partly underwritten by the wealth of a foundation and that advertises to the public, at a cut rate, the service on which his economic existence hangs.

Not all foundations are guilty of this ill-considered indifference to the economic stability of medical practice. It is an avowed policy of the Commonwealth Fund not to interfere with private practice but to emphasize educational service and professional training. The Carnegie and Rockefeller Foundations do an inestimable service to the medical profession as well as the public by their contributions to medical education and scientific research.

The one constant essential in public health work is the physician; and it cannot be stressed too strongly that he cannot function properly if he is subjected to economic injury. The contribution of the doctor to the community in free medical care has been quoted by Dr. Heyd to be three hundred and sixty-five millions of dollars a year. He cannot make this enormous gift to the needy and discharge his personal obligations if his economic stability is undermined by mistaken conceptions of philanthropy on the part of well-meaning but misguided lay groups.

Upon occasions when argument has grown heated, advocates of the bureaucratic system sponsored by some of the foundations have considered that they were scoring an unanswerable point when they asserted that the doctor was unable to judge their methods fairly because of his financial interest in the situation. Obviously the same criticism can be applied to their impartiality. If the doctor is indeed vitally concerned with the preservation of his right to earn his livelihood by the practice of medicine, it is no less true that an increasingly large number of social workers, statisticians, field workers and directors derive their living from the activities of the foundations. Surely there is no reason to credit them with a more inherent fairness or altruism than a profession whose annual gift to society, in free service, totals more than the entire donations of all the medical and quasi-medical foundations during the last twenty years.

As a matter of fact, it has repeatedly been demonstrated, and all of the observations of the Committee on the Cost of Medical Care to date tend to prove, that the physicians' charges are by no means the major portion of the economic burden imposed by illness. The average middle class worker is able to meet the expenses arising from an illness requiring home or ambulatory treatment. It is when hospitalization and extensive nursing are required that sickness imposes an unbearable burden on the middle class. The disease in this case suggests its own remedy. If hopital costs were reduced, unnecessary laboratory tests abolished and adequate nursing made available at a price within his means, the middle class patient would no longer face economic as well as personal disaster with the advent of illness. Under the present system, with hospital and nursing charges fixed, the physician is the only one who tempers his fee to the individual case. Would not the foundations make a vastly practical contribution to medical care if they exerted their considerable influence to reduce unnecessary overhead and employed their resources to lessen the costs of hospitilization to the middle class? There are a number of ways in which this could be done. Funds could be established in Grade "A" institutions to assume part of the hospital, nursing and laboratory charges to patients within specified income groups; or increased contributions to the hospital as a whole could be employed to reduce fees to the entire public. Whatever the method decided on, here is a field in which the foundations could render direct and effective assistance to the middle class when its need is urgent.

The dissatisfaction of the profession with certain aspects of the present policies of the foundations is not to be construed as a lack of appreciation of the great good which many of these organizations do and the even greater potentialities for good which all of them possess. Surely it is possible for two groups, both supremely interested in as complex a problem as the public health, to develop cooperative methods whereby both can work fruitfully in the common field, for their own and the public good. If the profession is truly and intelligently interested in public health education and preventive medicine, as it should be, there is no reason why it cannot give active and productive support to many of the projects of the foundations. If the latter, on the other hand, are primarily concerned with the public health, rather than with the development of influential and efficient administrative machinery, they will recognize that the doctor is the one indispensable feature of any health program under present conditions and that no permanent benefit can be derived from any system which stifles his individual development or destroys his economic security. Once these fundamental principles are accepted, it should not be difficult to establish a harmonious working relationship between the two groups.

Let us consider some of the practical methods of bringing about such a rapport. It is clear that much of the friction which has arisen heretofore has grown out of the vagueness of the foundations' expressed aims. Confronted with the task of expending huge sums of money for the "good of mankind," the executives must first determine what the good of mankind is; and it is here that one of the chief weaknesses of the present system lies. Obviously health is one of life's most necessary and desirable gifts; and so millions of dollars have been allocated to its purchase. Unfortunately, there is no one market for health. One phase of it depends on curing existing illness, another on disease prevention. Ill health may grow out of economic wrongs or spring from faulty hygiene and lack of sanitation. The exploration of any of these fields has infinite possibilities for good. It may also be replete with error. One of the grave flaws in current foundation policy as we see it has been that these groups have lacked proper guidance in the determination of their precise aims. With the exception of those, like the Rockefeller and Carnegie Foundations, that confine themselves to education and research in their medical departments, they have wasted enormous sums of money in the attempt to determine what to do with their money. In their ventures into the field of health they have spent millions of dollars on demonstrations, statistics, reports and publicity without the achievement of a single notable result that can conclusively be laid to their activities.

The mere expenditure of money, on no matter how lavish a scale, will not accomplish anything unless a significant purpose is fixed on and a practical plan of operation evolved. What more logical group is there in the sphere of health to aid in the selection of such a purpose, in the development of such a plan, than the medical porfession? Continuous, intimate contact with sickness has taught it much of the needs of public health. If it has seen too many panaceas and too many administrative theories have their brief day of glory for it to accept any untried remedy, whether social or medical, on faith, it has also known how to make effective use of new things once their worth has been proved. Its organizations, like the Medical Society of the County of New York or the New York Academy of Medicine in New York City, represent the totality of authentic medical experience. Would not the foundations interested in public health do well to establish a permanent contact with such organizations, to solicit their aid in the discriminating selection of objectives and obtain their advice on the relative value of the large number of health projects which are annually conceived and which require expert and critical appraisal to determine their true measure of worth? If such an advisory relationship were established, it would instantly minimize the possibility of friction between the foundations and the medical profession. To the former it would vouchsafe an added freedom from error in judgment. To the latter it would spell protection against one source of economic wrong. There is one agency which has successfully worked out such an arrangement on a small scale. The rapport between the East Harlem Health Center and the East Harlem Physicians' Association might serve as a model to larger groups.

The principal other criticism which is directed at the foundations is less tangible, but of equal importance. I have already spoken at length of the deadening effects of outside dictation and standardization on any social group. The foundations must learn that their function is to provide means for the advancement of thought, not to control thought. They should encourage research, but not state what the nature of that research shall be. In the field of public health, they should carry out projects conceived in conjunction with public health officers and the medical profession. They should provide facilities for the improved practice of medicine; but they must not dictate what the conditions of medical practice shall be. They should remember that organization is not an end in itself, but a tool to enable the individual to function at the maximum efficiency and to the fullest development of his native powers.

John Stuart Mill concluded his essay, "On Liberty," with the following admonition to the State:

"A government cannot have too much of the kind of activity which does not impede, but aids and stimulates, individual exertion and development. The mischief begins when, instead of calling forth the activity and powers of individuals and bodies, it substitutes its own activities for theirs; when, instead of informing, advising, and, upon occasion, denouncing, it makes them work in fetters, or bids them stand aside and does their work instead of them. The worth of a State, in the long run, is the worth of the individuals composing it; and a State which postpones the interests of their mental expansion and elevation, to a little more of administrative skill, or that semblance of it which practice gives, in the details of business; a State which dwarfs its men, in order that they may be more docile instruments in its hands even for beneficial purposes, will find that with small men no great thing can really be accomplished, and that the perfection of machinery to which it has sacrificed everything will in the end avail it nothing, for want of the vital power which, in order that the machine might work more smoothly, it has preferred to banish."

I can call to mind no more pertinent admonition to organized philanthropy.

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DIABETES MELLITUS: AN ANALYSIS OF 149 CASES*

Henry B. Gotten, M.D., Memphis

THIS study comprises a review of 149 cases of diabetes mellitus seen in the Polyclinic from 1920 to 1930. Over 100 cases have been purposely omitted, because of inadequate knowledge of their present condition, as it was desired to learn the course of events in these cases when followed over a long period of time. The following questionnaire was sent out, the response to which was most gratifying:

1. Have you followed the diet outlined by us since your examination at the Clinic?
2. Have you been able to increase your diet, or have you found it necessary to decrease it?
3. Do you have your urine examined for sugar at regular intervals? What was the last report and when?
4. Have any changes in weight occurred since your last examination?
5. Have there been any complications such as boils, carbuncles, or other infections? If so, what influence did they have on your diabetic condition?
6. Are you taking insulin and if so, how much and how often?
7. Have you ever had a reaction from insulin?
8. Please state whether you have had neuritis, high blood pressure or any other disease.
9. Have you had any minor or major operation since you have had diabetes? If so, state briefly the nature of the operation and results.
10. Do you have any trouble with vision, infection or pain in toes or feet or any itching about any part of the body?
11. Any other information you may give us about your present condition will be appreciated.

Eighty-nine answers were received. There were sixty other patients under more or less constant supervision, making it possible to report on a group of 149 cases.

Sex and Age

In the analysis of these records, there were 88 men and 61 women, a ratio of approximately 3 to 2. This is in accord with the findings of others who have analyzed large series of cases. It has been said, however, that more women die of diabetes. As Joslin has stated, the probable reasons for preponderance in men are:

1. More frequent life insurance examinations.
2. The more consideration that men receive.
3. The hesitancy of women to speak of their urinary troubles.

There were fifteen Jewish patients, an incidence of 10.7 per cent, which is large considering the small Jewish population in this territory. Undoubtedly, obesity and heredity are prominent factors in the production of diabetes in Jewish people, although heredity is an uncertain factor.

The average age of the 149 patients was 51.8 years, the youngest patient being 2, and the oldest 79 years of age. Diabetes is essentially a disease of the fifth and sixth decades, becoming more frequent as age increases.

Some of the probable causes for diabetes in late life are:

1. More people are living to an age in which diabetes occurs.
2. Arteriosclerosis, a decided factor, is more common at that age.
3. Over nutrition and a less active life.
4. Gall-bladder and liver diseases are more common at that age, which undoubtedly interferes with pancreatic function in certain cases.
5. Focal infection.

Chart I illustrates the incidence of diabetes by decades.

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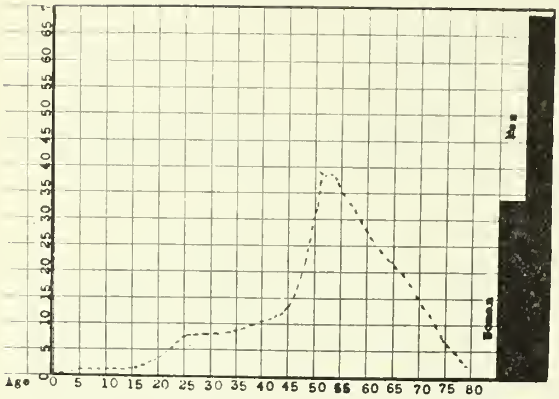
*Read before the West Tennessee State Medical Society, Jackson, Tenn., May 15, 1930.

CHART I



AGE CURVE FOR DIABETICS

It can be seen that diabetes is rare in children. In such cases, it is always severe and requires a constant vigilance on the part of both parent and physician. The importance of suspecting diabetes in children should be emphasized. Before the discovery of insulin, practically all children with the disease died in coma in a short time, while now there is no good reason for an uncomplicated case to die from coma, provided the diagnosis is established before coma has been present too long. Early diagnosis renders possible the saving of a child's life.

It has been well stated that a patient with severe acidosis or coma of diabetic origin presents just as great an emergency as any acute abdominal condition, and it is the duty of a physician to remain with the patient until danger has passed.

An attempt was made to study the hereditary aspects of diabetes in this group, but the findings were unsatisfactory. Many patients had no knowledge of the real cause of their parent's death and in many instances, the question had not been asked by the physician who took the original history. Heredity probably is an etiological factor. Joslin states that he would hesitate to attach too much importance to it. However, he reports one family in which twelve of the members died from diabetes. With more careful history taking, better diagnosis and closer analysis, it may be possible in the future to definitely determine the effect of heredity in the production of diabetes.

SYMPTOMS

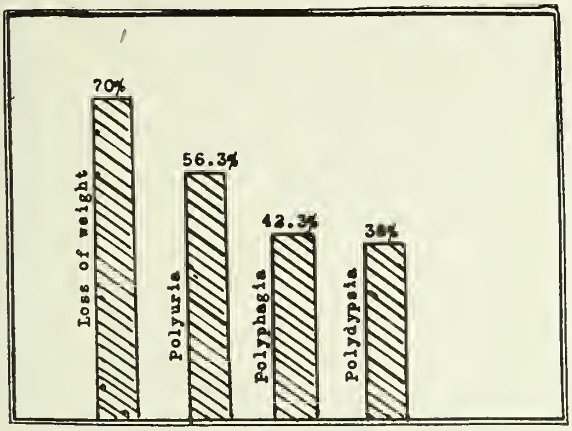
Some of the symptoms of diabetes as presented by patients will be considered. The average duration of symptoms before examination in the 149 patients was ten months, some patients having had mild symptoms for several years, while others had had severe symptoms for only a few weeks. The most striking example was that of a woman 36 years of age, seen in 1923, who had suffered from excessive thirst, dry mouth, polyuria, impaired vision and pruritis vulvae for six years, but during this time a urinalysis had not been made. Vaginal douches had been prescribed for the pruritis.

The symptoms that are generally considered pathognomonic for diabetes are:

1. Polyphagia.
2. Polydypsia.
3. Polyuria.
4. Loss of weight.

Eighty patients had as their chief complaint symptoms other than those above mentioned and furthermore, 37 gave no symptoms which would cause one to suspect diabetes. These patients came because of gall-bladder disease, respiratory infections, tumors, cardiac insufficiency, or other local or constitutional complaints. Diabetes was discovered on routine urinalysis and proved by blood sugar determinations. In 118 cases in which the question was asked regarding loss of weight, 71 (60 per cent) gave positive answers, which established loss of weight as the most common symptom. The relative proportion of obese patients or the amount of weight lost could not be determined. There is no doubt that obesity is a decided factor in the production of diabetes and it is not surprising that loss of weight should occur frequently when obesity is the rule. The next most common symptoms were polyuria occurring in 56.3 per cent, and polyphagia occurring in 42.2 per cent. The above symptoms are those of tissue starvation and hyperglycemia which and may be termed the malignant stage of the disease.

CHART II



RELATIVE FREQUENCY OF PRINCIPAL SYMPTOMS IN DIABETES

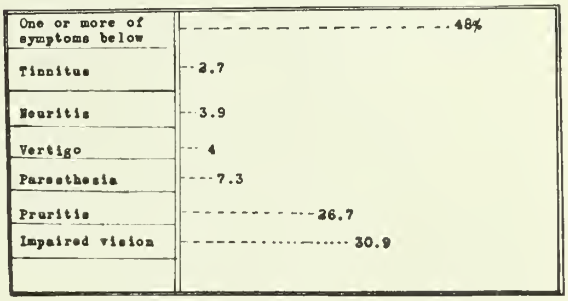
The short duration of symptoms in some cases gives the impression that diabetes may, at times, begin almost by crisis with a sudden decrease in glucose tolerance, while other cases may present no symptoms, the disease being very mild and perhaps discovered only on examination for life insurance. As an example of acute onset, the case of a child is cited: R. S., two years of age, was seen in 1923, who had been in perfect health. At this age he developed a streptococcic sore throat. In a week or ten days following recovery it was noticed that the child was languid, preferred to lie on the floor most of the time, whereas before he had been very active. The mother noticed that the child seemed very thirsty and passed large amounts of urine, both day and night. The family physician was called and diabetes was diagnosed. Coma followed, but in a few days he completely recovered due to the use of insulin. The child is doing well at the present time.

The following symptoms have been classified as the secondary symptoms of diabetes:

1. Impairment of vision.
2. Pruritis.
3. Vertigo.
4. Neuritis.
5. Tinnitus.
6. Tingling of numbness of the hands or feet.

These symptoms are probably due to the destructive changes caused by increased blood sugar over a long period of time, which are likely the changes due to arteriosclerosis. They come on relatively early in adult life, and when present, always suggest diabetes. Impaired vision occurred in forty-six patients (30.9 per cent), which was the most common symptom in this group. Pruritis occurred in 26.7 per cent, and other symptoms occurred as indicated in chart III.

CHART III



RELATIONSHIP OF SECONDARY SYMPTOMS IN DIABETES MELLITUS

The duration of the symptoms above discussed averaged ten months. A number of patients had symptoms that were in some way suggestive of diabetes for several years, while others had symptoms of short duration. The latter were represented principally by cases in which coma, gangrene or infection was present. Acute diabetes probably does occur, as already mentioned, but it is rare and it becomes imperative that it be discovered before months have elapsed and permanent damage has been done. The importance of routine urine examination cannot be over-emphasized, and preferably urine that has been voided two hours after a large meal rather than a specimen obtained before breakfast.

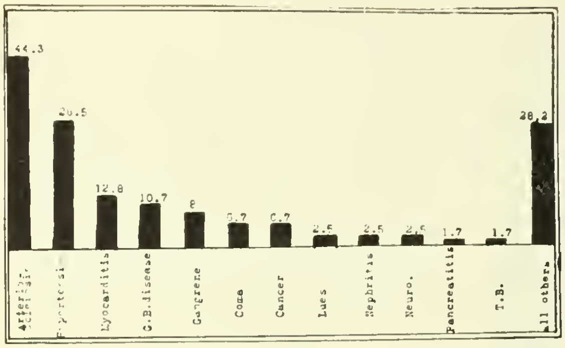
COMPLICATION

Some of the complications of diabetes will be considered, which chart IV illustrates.

COMPLICATIONS IN DIABETES

It is apparent that arteriosclerosis is the most common complication, occurring relatively early, and it is not surprising that so many symptoms are due to it. This may

CHART IV



be reversed and the inference drawn that arteriosclerosis may cause diabetes due to inadequate pancreatic blood supply. Hypertension, myocarditis and gall bladder disease occurred in the order named. Attention is called to the frequency of gall-bladder disease as there is probably a close relationship between chronic cholecystitis and diabetes.

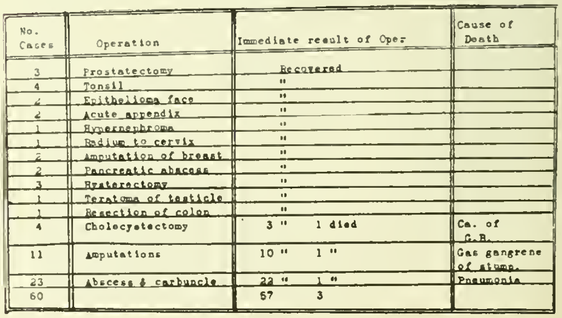
Cancer, syphilis and renal disease occurred about as would be expected for the average group, but tuberculosis was practically absent. This is significant for the death rate from tuberculosis in this area is about 10 per cent. The explanation is offered that, first, tuberculosis generally occurs in younger people, and second, it is rare for diabetes to occur in people who are habitually underweight, and most patients with tuberculosis are underweight. There may be other factors concerned, but these are probably the most logical ones.

There were twelve cases of gangrene, an incidence of 9 per cent and coma occurred in ten cases of 6.8 per cent. A decided diminution was noted in the number of coma cases in this series, although some recent reports indicate an increase in the incidence of coma. With better diagnosis coma should become almost a non-entity. Most patients who develop coma do so from negligence. There is convincing evidence that the more the patient is taught about diabetes, the function of the pancreas, the use of insulin, the reasons for dieting, the nature of acidosis and its treatment, the better they will cooperate. It has been our custom to teach all patients to examine urine and as much about the disease as possible.

SURGERY ON DIABETES

The operations performed on these patients present an interesting series and proves conclusively that surgery in diabetes is perfectly safe if proper supervision is carried out. There were sixty operations in the series, ranging in magnitude from tonsillectomy to radical resection of the colon. A great many of these were infected or gangrenous cases with severe exacerbation of the diabetic condition, but in the entire group of patients operated upon, only four died, none of the deaths being due to diabetes. One death followed amputation of the thigh at the hip, but death in this case was due to gas bacillus infection which the patient had had for several days prior to the operation. A second death occurred following amputation of a leg, due to a blood stream infection. At the time of death the urine was negative for sugar, acetone and diacetic acid, and the blood sugar was normal. Another patient died of pneumonia and a fourth death was due to a carcinoma of the gall-bladder. Considering the age and general condition of the patients, these results are extremely gratifying. It must be remembered that surgery is required more often for diabetes than for other individuals, and any surgical condition should receive prompt attention. The frequent occurrence of gangrene and carbuncles is the chief reason for diabetic surgery. The average age of the patients operated upon was fifty-one and this figure was considerably lowered by the patients subjected to tonsillectomy, all of the latter being young patients. Sixty-two per cent of the patients operated upon were over fifty-five years of age.

CHART V



No. Cases	Operation	Immediate result of Oper	Cause of Death
3	Prostatectomy	Recovered	
4	Tonsil	"	
2	Epithelioma face	"	
2	Acute appendix	"	
1	Hypernephroma	"	
1	Radium to cervix	"	
2	Amputation of breast	"	
2	Pancreatic abscess	"	
3	Hysterectomy	"	
1	Teratoma of testicle	"	
1	Resection of colon	"	
4	Cholecystectomy	3 " 1 died	Ca. of G.B.
11	Amputations	10 " 1 "	Gas gangrene of stump.
23	Abscess & carbuncle	22 " 1 "	Pneumonia
60		57 3	

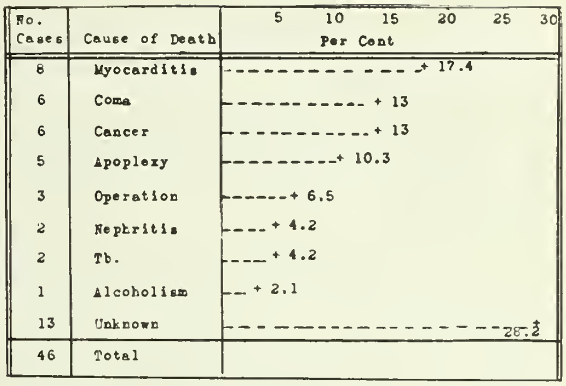
OPERATIONS ON 149 DIABETICS

Some of the factors favoring success in surgery on diabetics are: (1) An early diagnosis and an early decision to operate. Valuable time must not be lost, even though the condition be serious, as the diabetes can be treated while the patient is convalescing from the operation. The best results are obtained when the patients are treated by an internist in co-operation with the surgeon. (2) Adjustment of diet. If there is no need for haste, such as in elective operations, the patient can be properly prepared and sent to the operating room with a normal blood sugar and no acidosis. In the presence of infection, however, too vigorous an attempt should not be made to reduce the blood sugar before operation. (3) The use of insulin which is advantageous both before and after operation. Insulin will greatly reduce the probability of coma or infection following the operation. (4) The choice of anesthesia. Local, gas or spinal is preferred, depending upon the type of operation. Spinal anesthesia is especially recommended in amputations and prostatic surgery. Ether has been used many times with success, but increases the risk. It has a tendency to cause acidosis and hyperglycemia. It also greatly diminishes the urinary output, causes nausea and vomiting, and interferes with the intake of food after the operation.

Present Status

Forty-six patients (31.4 per cent) in the series are now dead, with an average age at death of 60.4 years which is above the average life expectancy. As some one has stated, "It is a healthy person who can live as long as a diabetic." Myocarditis is listed first as the cause of death with eight cases, which was to be expected because of the advanced age. Coma, cancer and apoplexy follow and the other causes are listed in chart VI. The cause of death could not be determined in thirteen cases, but with an average death age of over sixty, the probability is that they died of the diseases common to that age.

CHART VI



No. Cases	Cause of Death	Per Cent
8	Myocarditis	17.4
6	Coma	13
6	Cancer	13
5	Apoplexy	10.3
3	Operation	6.5
2	Nephritis	4.2
2	Tb.	4.2
1	Alcoholism	2.1
13	Unknown	28.2
46	Total	

CAUSES OF DEATH IN 46 DIABETIC CASES

There are forty-six patients using insulin regularly, and it is noted that the average age of these patients is 39.3 years, or about eleven years less than the average age for the entire group. This confirms the theory that the younger the patient the more severe the diabetes. The attempt was made to obtain statistics as to the degree of success of treatment among the patients, but the personal equation made it impractical. All patients were instructed regarding the examination of urine and regulation of diet. Some have neglected to do so, but the majority have kept their urine sugar free and are enjoying good health. It is very important to impress upon the patient that once a diabetic, always a diabetic, and that their lives and mode of living must be adjusted to it. Only by continuous and intelligent co-operation can good results be obtained.

Summary and Conclusions

The study of this series of 149 cases reveals most of the problems confronting anyone who treats diabetes mellitus. Emphasis is placed on the importance of routine urine examination, intelligent treatment, and the necessity for keeping in contact with the patient continuously. By such measures life expectancy may approach that of the average non-diabetic.

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ACHLORHYDRIA, WITH REPORT OF CASES*

Frederick E. Marsh, M.D., Chattanooga

THIS paper comprises a series of 140 cases of achlorhydria observed while associated with Dr. H. W. Bass, of Gadsden, Ala.

It is generally thought that hydrochloric acid originates from the parietal cells of the gastric tubules. In the region in which these cells are chiefly present, that is, the mid-portion of the stomach, the secretion is alkaline or less acid. In the pyloric region, for example, these cells are lacking and the secretion is alkaline. The parietal cells are very rich in chlorides and this fact serves to connect them with the production of hydrochloric acid. The chief chloride is sodium chloride and by some means this compound is broken up, the chlorine being combined with hydrogen and is then secreted upon the free surface of the stomach as hydrochloric acid.

The functions of hydrochloric acid are: (1) physiological (2) bio-chemical. By the former is meant its action in controlling the movements of the stomach, including the opening of the pyloric shincter. By bio-chemical, we mean its functions of (1) assisting pepsin in the digestion of proteins; (2) in bringing about a certain amount of inversion of the dissacharids; (3) producing an antiseptic action on the stomach contents. The chyme as it is ejected from the stomach is usually sterile. When the acid in the gastric juice falls below the level at which it exerts an antiseptic action, various bacteria and yeasts grow in the stomach contents and produce irritating organic acids and gases.

Diarrhea often occurs in cases of achlorhydria due to the fact that the stomach empties itself in a precipitate manner and undue peristalsis in the small intestine is carried over into the large intestine, giving rise to diarrhea with lienteric stools. Twenty out of the 170 cases complained of having had diarrhea; a large number had diarrhea at the time of the examination.

The average ages of the patients were 45 to 50 years; there were 61 males and 104 females.

Of this group of 140 cases there were 17 cases who were suffering with arthritis. Pemberton mentions the frequency with which arthritis is associated with achlorhydria. This is particularly true of the more chronic type at or beyond middle life and constitutes a feature of those cases of so-called intestinal origin. Stained smears of the gastric contents of patients with achlorhydria often reveal many streptococci and staphylococci. Whether or not the stomach may act as a focus of infection in these cases is problematic.

There were 19 cases of pernicious anemia in this group. Many authors believe achlorhydria to be the essential predisposing cause of pernicious anemia. Hurst believes that achlorhydria allows intestinal infection to take place and that intestinal toxins are formed. He states that two types of toxins are produced known as hemotoxin and neurotoxin and the occurrence of anemia or of neurological symptoms as the outstanding feature of the disease depends on which one of these toxins is in ascendency. It has been observed that when the hemopoietic system is badly damaged there are seldom cord changes and the reverse is true in the cases in which there are cord changes.

In this connection, the hereditary aspects of pernicious anemia and achlorhydria must be considered. Comer found achlorhydria in a large series of relatives of patients with pernicious anemia.

There were 25 cases in this group of 140 cases studied who had gall bladder disease. Alvarez and Cohnheim have demonstrated the fact that bile and pancreatic juice neutralize the hydrochloric acid secreted by the stomach and ejected into the duodenum. In cases of pancreatic disease and gall bladder disease the bile and pancreatic juice are decreased in quantity and since there is not a sufficient amount of these juices to neutralize the hydrochloric acid, pylorospasm occurs. This is brought about by irritation of the acid in the duodenum. In cases of pylorspasm and delayed emptying of the stomach, stagnation develops which in turn causes fermentation in the stomach and decreased amount of acid in the stomach (?)

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*Read before the Hamilton County Medical Society.

Neurasthenia, under nutrition and enteroptosis. In this group there were 26 cases. The achlorhydria in this group may be explained by the psychic element that is so outstanding in these cases. The mind influences digestion to a marked extent. These neurotic patients nurse their ailments and constantly have their attention centered on the gastro intestinal tract. Often other factors such as business and domestic worries disturb the patient's normal frame of mind. These psychic elements all bring about a slow emptying time of the stomach and pylorospasm together with an achlorhydria frequently.

Pellagra and Sprue: There were two cases of pellagra and four of sprue. The achlorhydria in these diseases can be explained by the ulceration of the mucous membrane of the gastro intestinal tract with its destruction of the mucosa.

Alcoholic gastritis: There were five cases. In studying this disease I was struck with the fact that in early cases there is hyperacidity. Later as mucus forms in excess in the stomach, achlorhydria develops.

Secondary Anaemia: There were 20 cases in the series, on whom no other diagnosis except secondary anemia could be made. Many cases of achlorhydria develops secondary anemia due probably to a lack of the combined action of pepsin and hydrochloric acid on the proteins of the food. There is an improper digestion of proteins with nausea, gas, eructations, etc., developing. These digestive symptoms cause the patient to cut down on his diet until in a few weeks he has reduced his diet to the verge of starvation. As a result, anemia due to lack of food develops.

There were 14 cases of heart disease. These cases include those with hypertension and cardiac hyperthrophy, arteriosclerosis and nephritis. Some of these gave a history of having had cardiac decompensation and the congestion is the gastrointestinal tract may account for achlorhydria. However, in many of these cases, achlorhydria is probably a congenital condition having no relation to the cardiac condition.

Cancer of the Stomach: There were two cases. Any case of achlorhydria past 45 years of age should cause one to suspect cancer if any stomach symptoms are present. Particularly is this true if the symptoms have been rather sudden in onset. In cases of gastric ulcers under observation with normal or high acids, a decrease or absence of hydrochloric acid should cause one to suspect carcinomatous changes in the ulcer.

There were six cases of migraine. Whether or not achlorhydria, with its concomitant digestive symptoms, is a factor in the causation of migraine is problematic. Nevertheless, there is an alleviation of symptoms with fewer attacks after administration of hydrochloric acid. It is possible that toxic digestive products, which occur in achlorhydria, play a great part in causing the attacks. This theory is supported by the fact that a great many attacks can be warded off by taking a purgative at the onset of the symptoms and obtaining good elimination from the bowels

Tabes: Five cases. In gastric syphilis there is always achlorhydria, but only one of this group had gastric symptoms and x-ray examination was negative in this case. All these patients were emaciated and greatly debilitated and probably the achlorhydria is explained on the basis of emaciation rather than to the toxin of syphilis.

In conclusion:

(1) Achlorhydria is injurious to many patients due to bacterial growth in the stomach in absence of the antiseptic action of hydrochloric acid.

(2) Pernicious anemia is thought to be due directly to toxins in the gastro-intes-

tinal tract which develop in absence of hydrochloric acid.

(3) Arthritis may be caused by bacteria in stomach contents in absence of hydrochloric acid. Stained gastric contents reveal numerous streptococci and staphylococci.

(4) There is a hereditary factor in achlorhydria; many cases are seen in several members oı the same family.

(5) Achlorhydria in gall bladder disease signifies slow emptying time of the stomach and pylorospasm with stasis in the duodenum.

(6) Achlorhydria in gastric ulcer means carcinomatous changes in the ulcer. In any patient with achlorhydria and having digestive symptoms past 45 years of age cancer should be ruled out.

(7) Any debiıtating disease may reveal achlorhydria as an incidental finding.

USE OF ZINC IONIZATION IN THE EAR AND NOSE*

R. G. Reeves, M.D., Knoxville

Dr. A. R. Friel of London is really the father of Zinc Ionization as used in the treatment of chronic otorrhea. I had the pleasure of meeting him in Chicago at the American College of Physical Therapy in October, 1928. I found Dr. Friel a man of pleasing personality and very willing to explain the value of this treatment. After having heard him read two papers on this subject and having a talk with him, I had no doubt as to the thoroughness of his work and that the results were equally as good as he reported. I had already been using this treatment for three or four months and returned home with renewed interest in the subject.

The enemies to be attacked are living organisms. All life processes take place in colloidal system. A bacterium is a unicellular colloidal system. Protoplasm is neither liquid nor solid, but may have the characteristics of either. The change of the physical properties of the protoplasm of a living cell is most likely to result in death. Bacteria are living cells and they may be destroyed (1) by chemical reagents forming compounds which result in death; (2) by physical (heat) or physicochemical interaction, causing precipitation, coagulation, changes in the electric charge, etc., sufficient for destruction or crippling. Zinc ionization causes coagulation of the protoplasm resulting in death to the bacteria.

All treatments should be bounded on all sides by whys and whats. What are you using? Why are you using it? and, What result do you expect? The things used in this treatment are a weak direct electric current (galvanic) from batteries or a direct faradic current generated from a motor. The galvanic current is the one most frequently used. Zinc sulphate is the solution used to be ionized. Ionization is the disassociation of a substance in solution into its constituent ions. Iontophoresis is the introduction, by means of an electric current, of ions of a different sort into the tissues of the body. Cataphoresis has practically the same meaning. Ionotherapy is ionic medication. Zinc ionization is commonly used today as meaning that a zinc sulphate solution is being used by iontophoresis to treat chronic otorrhea, chronic ulcers of the skin, et cetera. The zinc sulphate is disassociated into its zinc—ions anl sulphate—ions by a weak galvanic current. The zinc-ions move toward the negative pole (Kathode) and the sulphate-ions move toward the positive pole (Anode). Thus we have our paraphernalia.

Why do we use zinc sulphate? To produce a zinc compound with the protoplasm of the bacteria producing a physical change, coagulation, resulting in death. (2) The zinc compounds are relatively insoluble ones and tend to prevent further growth of bacteria. (3) As the compounds of zinc, with the cells proteins are relatively stable and insoluble ones, they decompose slowly and in doing so liberate in an ionic state the zinc which continues to exert its bactericidal action. (4) While the zinc penetrates into the tissue the leucocytes and bacteria move out toward the surface to the anode.

Leucocytes and the majority of bacteria possess a negative charge and are consequently attracted towards the anode which is placed in the external auditory canal. Any condition producing local leucocytosis about an infected area is desirable. Again the bacteria are being brought out of their trenches into the open where they are more easily attacked. Presumably the nature of the reacting organism will modify the reaction. For example, bacillus pyocyanius and streptococcus hemolyticus causes alkali formation, whereas some staphylococcic cause acid formation. The pneumococcus is said to cause pus to become markedly acid. The results of these varying reactions become significant when considering the clinical aspect of the ionization method.

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*Read before the Ear, Eye, Nose and Throat Section of the Tennessee State Medical Association, Centennial Meeting, Nashville, April 9, 1930.

The anode which is placed in external auditory canal constrict the vessels, hardens the tissue and acts as a sedative while the kathode, placed at a distant part, dilates the vessels, softens the tissue and stimulates secretion.

As the result of this treatment we expect the infection to be killed out, the discharge to decrease or cease and the tissue to become healthy.

In any particular case of chronic otorrhea which comes to us for treatment it is necessary to carefully examine the ear, nose and throat in order to form an opinion as to what is keeping up the discharge.

Dr. Friel classifies chronic otorrhea as follows:

First—Tympanic sepsis.

Second—Tympanic sepsis plus polypus.

Third—Tympanic sepsis plus infection of nose or throat.

Fourth—Tympanic sepsis plus caries of bone and mastoid involvement (in accessible sepsis).

From a clinical point of view there are two kinds of sepsis. There is sepsis on the tissue and sepsis in the tissue. Erysipelas and cellulitis are examples of sepsis in the tissue while chronic otorrhea and chronic ulcer are examples of sepsis on the tissue. Sepsis on the tissue lends itself admirably to treatment with zinc ionization. In chronic ulcers the tissue is bathed or covered with exudate composed of serum, bacteria, luccocytes and cellular debris. The zinc-ions are driven into this exudate and the superficial layer of tissue coagulating the albumin and the protoplasm forming albuminates. The stronger the current or the longer the current is on, the deeper the zinc-ions are driven in. A current strong enough will destroy healthy tissue. The coagulated exudate or tissue produced by zinc ionization is different from that produced by the actual cautery. The actual cautery produces an exudate which is an excellent media for bacterial growth, while the zinc coagulate is bacterialcidal.

After the ear has been carefully cleansed and aspirated and cleaned again, the patient lies down with the affected ear up. The canal is filled with a .5% zinc sulphate solution. Intermittent suction and pressure is then made with the otoscope or intermittent pressure on the tragus, having the patient to swallow at the same time. This is to fill the cavities about the middle ear and cause the fluid to pass down the eustachian tube in order to get as thorough sterilization as possible. The positive electrode is now placed in the canal and the negative one inside the opposite cheek or on some other part of the body. The current is now turned on slowly up to about two milliamperes and allowed to remain from ten to fifteen minutes. The current is slowly turned off. A rapid change in current produces marked vertigo. The treatment is completed by drying the ear carefully and insufflating a little boric acid powder.

What cases are suitable for zinc ionization? All cases save where there is an involvement of the mastoid with caries of the bone or cholesteatoma. These cases are amendable to treatment after a proper mastoidectomy has been done. In some cases it is necessary to remove polypus from the canal before succeeding with the treatment. A small polypus will subside under zinc ionization. Infection in the nose and throat must be given attention if you expect the ear to remain dry. According to Dr. Friel, 60% can readily be cured; 30 to 35% can be cured with some trouble. These are cases where there is a polypus present or some affection of nose and throat. The remaining 5 or 10% will require some form of mastoid operation. From my own personal experience I do not think Dr. Friel has given too high an estimate of this treatment. At present I have only one case that has failed to dry up where the treatment has been given a fair trial. I have two more cases where the discharge has not dried up, but have not had the proper cooperation with these patients. A patient with the eustachian tube entirely blocked is a rather unfavorable case, as there is not the proper drainage for the normal secretion of the ear.

CASE HISTORIES

Frances Brown, age 5, was first seen by me in the summer of 1927 while on duty at the Knoxville General Hospital. Both ears were discharging a muco-purulent secretion, and I was of the opinion that they would clear up if the proper attention was given them. T. & A. was done and ears were greatly improved when I went off of the service. In August, 1928, one year later, Frances was brought to my office with the request that something be done for her ears as the odor was very offensive. The history given was that the ears continued to discharge since she had left the hospital.

At this examination there was a foul purulent discharge in both canals and seropus was aspirated from both middle ears on using suction. Large perforations in lower part of both drums. Zinc ionization was given twice a week for five weeks and patient discharged with both ears dry. She went through the winter 1928-29 having no trouble until late in spring when one ear began to discharge. She was given two more zinc ionization treatments and has had no discharging ears since. Today both drums are scarred, show much fibrous tissue and large perforation in lower segments.

Jimmie Stokes, age 4, was first seen by me in August, 1928. At this time there was a foul purulent discharge from both ears with slight sagging of right canal. Both drums were boggy. X-ray: Right mastoid cloudy, and an apparent cavity in left. I did not feel that it was possible to clear up the ears without the mastoids being cleaned out first, and therefore advised that the patient be taken to Knoxville General Hospital for treatment, as he was a charity case.

He was taken to the hospital where a double mastoidectomy was done, and was kept in the hospital for five months. I did not see the patient from August of 1928 until the latter part of February of 1929, during most of which time he was in the hospital under treatment. In February he was brought to me with the information that he had been discharged from the hospital as a hopeless case of chronic otorrhea. On examination I found a foul purulent discharge in both canals. No land marks could be made out. There was just as mass of swollen and congested tissue about the middle ear. No idea could be obtained whether or not there was any of the drums remaining. I told the nurse that the ears did look rather hopeless, but that we would try our luck. Zinc ionization was given twice a week for six weeks, and both ears were dry. There has been no further discharge since April 6, 1929. Today he has a fairly good ear drum on the right (M. T. mod. retracted and scarred). On the left there is a small exostosis of the canal in the upper posterior part near the drum. The drum is apparently intact, dull and retracted.

I have chosen these cases because they were about the worst cases you could possibly get, and the results obtained proved that we should never be discouraged in undertaking to clear up chronic otorrhea if the proper study and treatment is given the case.

Of 280 children in the Tennessee School for the Deaf there is one child with a chronic discharge from the ear. This is the patient to whom I referred to previously that the ionization treatment had failed to clear up. It is probable that she needs a mastoidectomy. While the ear has not dried up the discharge is much lessened and the odor disappears if a treatment is given every two weeks.

Having found zinc ionization so valuable in treating chronic otorrhea, I have ventured some in using it in treating chronic sinusitis. I have used it in three cases of chronic frontal sinusitis to shrink down the swollen tissue in the naso-frontal duct which were not ventilating sufficiently after the bony opening had been enlarged. The result was very gratifying. A few words in regard to technique: Wrap the positive electro with a little cotton and pass up into the frontal opening. Next pass a small Casselbury canula into the frontal. Now have the patient lie down so the opening to frontal will be near the top of the sinus. Fill the sinus full of the solution, withdraw the canula, turn on the current as strong as can be withstood by the patient (from 3 to 5 milliamperes for 20 minutes). This same treatment can be used in the ethmoids (post operative) and antrums. You can use a still stronger current in the antrum. The patient will tell you when to stop. This treatment appeals to me as a great adjuvant in establishing ventilation in chronic frontal sinusitus. Hollenger and Cottle of Chicago use zinc ionization in treating imtumescent rhinitis. They saturate a piece of gauze strip with zinc sulpnate and place the gauze about the middle turbinate, middle meatus and place a zinc wire along the inferior meatus, and then finish packing with the saturated gauze. Care is taken not to pack the gauze in the olfactory fissure as the sense of smell may be destroyed by this treatment. The current is turned on up to 10 milliamperes if patient can stand that much, and left on for 15 minutes.

Conclusion: Zinc ionization will cure 60% of the cases of chronic otorrhea with less trouble than any other known treatments and furthermore will cure another 30% with some trouble, but requiring much less time and trouble than any other known treatment. Recurrent infections are less frequent than with other forms of treatment. Its use in the nose is not so well established, but it seems to be adaptable to various applications, especially about the naso-frontal opening where there is blocking due to soft tissue, and in all probability will become a valuable adjuvant to our present methods of treating sinuses.

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FAILURES OF THE CIRCULATORY SYSTEM*

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IT is not the purpose of the discussion of this subject on circulatory failures to attempt to bring to your attention new developments, but simply to discuss once again the foremost menace of the life of man today. It is to some extent beyond our power of reasoning as to why failures of the circulatory system in the past few years have increased until today it causes twice as many deaths as pneumonia, kidney disease, cancer, and almost double that of tuberculosis.

One is not unmindful of the fact that preventive medicine has greatly reduced the deaths due to the other mentioned diseases; also, that more accurate diagnosis may have, in a small manner, increased the number due to circulatory disease, but certainly these two factors do not account for the present existing number of heart failures. Is it that no progress has been made in prevention or treatment of this malady which is so constant before the eyes of the medical profession.

In this short period of time only a few of the outstanding symptoms and signs, noted from history and physical examination, shall be dealt with; the etiology and special means of diagnosis will be omitted, as it will be impossible to discuss such a subject in a general way.

For the sake of interest and convenience of discussion one may divide this subject into two main groups, namely, surgical and medical.

First, those conditions which mostly concern the surgeon are as follows:

1. Hemorrhage.
2. Peripheral Circulation.
3. Shock: (a) primary, (b) secondary.

Second, those conditions which mostly concern the internist. Symptoms and signs which are often observed in left heart failure are:

1. Dyspnea or attacks of cardiac asthma.
2. Cheyne-Stokes breathing.
3. Pulmonary edema, often acute.
4. Cough, nervousness, often nocturnal and very resistant to treatment.
5. Displacement of apex downward and outward.

The important symptoms and signs of right heart failure are quite different, in fact, they are the very ones which are absent in left heart failure:

1. Edema and effusions in the serous sacs.
2. Venous engorgement.
3. Cyanosis.
4. Oliguria.
5. Downward displacement and pounding impulse in the epigastrium.

You will note that many symptoms are omitted, and especially palpatation, pain, tachycardia, as well as arrhythimias, which do not always signify heart failure, but may be of a functional nature, etc.

May we first discuss the conditions which are usually problems of the surgeon. In this group the first one we have listed is hemorrhage. It is seldom a hard problem to diagnose or to treat this condition, but it is often an emergency problem, and after the hemorrhage has been arrested, the question is what is the next best thing to do. If the hemorrhage has been from a large vessel, it usually is accompanied by shock, but shock will be discussed later. If 30 to 50% of the total volume of blood is considered lost, and the patient shows the usual symptoms of hemorrhage, as they are most sure to do, then blood transfusion is the essential treatment, but never more than 500 c.c. to 600 c.c. If it is less than 30% and the patient is in fair condition, saline with 5% glucose should be given intravenously and a quantity of 800 c.c. to 1,000 c.c., for it immediately diffuses into the viscera and peritoneal cavity, also its viscosity is lower, whereas blood increases the viscosity and suddenly increases work on the heart. If the patient shows evidence of being nervous, morphine and atrophine should be given. Saline and glucose may be given until blood can be secured.

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*Read before the East Tennessee Medical Society, Cleveland, October 16, 1930.

Next is failure of the peripheral circulation, which is one of the greatest problems of the surgeon today. This condition occurs in post-operative patients, most unexpectedly in hysterectomy cases around the menopause stage of life, but it may occur in any case past middle age, following a major operation. How often have you known of patients to die one to three or four days after a major operation, and they usually have the following symptoms:

1. Fever 101 to 104-5.
2. Pulse 120 to 160.
3. Face flushed.
4. An anxious facial expression.
5. Blood pressure S-100; D-50 to 20.
6. Not cyanotic or delirious until they are dying and then we often hear they died of shock. But that is not shock. It is failure, first of the peripheral circulation and finally of the heart. It is due to a dilitation of the arterioles and capillaries. That is what causes the flushing of the skin, makes the patient feel hot, and the accumulation of this blood in these dilated vessels lowers the pressure in the vena cava and the volume inflow to the heart is greatly diminished. That is why the heart is fast, it is trying to keep up the blood pressure just the same as it does when the volume of blood is decreased due to hemorrhage. It does no good to give digitalis here, but what one must do is to use a drug that will contract the arterioles and capillaries. Adrenalin is too transient, it is dangerous, because when its effect is gone the pressure is lower than ever. The ideal treatment here is Ephedrine Hydrochloride or Sulphate grains three-fourths every three to six hours. It lasts much longer than adrenalin. The next problem of the surgeon is shock and it, by no means, is the least among his worries of the present time. Shock may be divided into primary or nervous shock, and the other kind may well be called secondary shock. In the first class, which is called primary shock, we only include those cases of psychic cause. It is purely a nervous condition caused by some extreme excitement or the effect of some horrible sight. In such cases, rest and heat is about all that is necessary, probably morphine and atrophine may be included. The prognosis is good.

In secondary shock, where most all cases of shock fall, it includes traumatic, surgical, hemorrhagic, etc.—that is, any shock that is produced by some physical means. Before going into the mechanical factors which produce shock, may we first list here the symptoms of shock which are as follows:

1. Low arterial pressure.
2. Rapid Pulse.
3. Grayish pallor or slight cyanosis.
4. Profuse sweating or moist cold skin.
5. Frequent, shallow respiration.
6. Usually a dulled mental condition or coma.
7. Muscular weakness.
8. Subnormal temperature, 97 or below.
9. Most always thirsty.
10. Sometimes vomiting.

Shock is not failure of the peripheral circulation due to exhaustion of the vasomotor center of the autonomic system, as had been thought. If it were, the skin would be flushed and warm, not moist, cold and grayish in color as well as other symptoms mentioned above that occur. But shock is a lessened output of blood from the heart due to an insufficient supply of venous blood to the heart, which is due to a fall of venous pressure, caused by a withdrawal of blood from the circulation partly through the passage of plasma into the tissues, but mainly through stasis of blood in the dilated capillaries and small veins. It has not been satisfactorily proven that the cause of this accumulation of blood into the viscera or the capillaries and venules is due to nerve lesions or a direct influence of some toxic substance absorbed from the damaged tissue on the blood vessels.

The treatment is rest, heat, concentrated solutions, intravenously, ephedrine by hypodermic. If the patient is near coma, give caffeine sodium benzoate, grains 7½. If restless, give morphine grains 1/6, atrophine grains 1/150. The nature of the cause of shock would determine whether a hypertonic solution of blood is to be given intravenously.

The failures of the circulatory system which concern the medical doctors, as you recall, have been listed under left heart failure and right heart failure. First, may we discuss the symptoms and signs of left heart failure. Dyspnoea or cardiac asthma is the first symptom of this list. It is the first symptom in 60% of all heart failure cases. It is usually first noticed on exertion or the patient awakens at night short of breath; it is, of course, not the only symptom that may be noted when attention has been called to this particular one. One may state that when a patient has developed cardiac dyspnea it indicates 25% myocardial disability, for dyspnea is a decrease in the vital capacity of the lungs, that is, a decrease in the number of cubic centimeters that can be exhaled after a forced inspiration. It is decreased to about 75% to 80% of the total volume before any shortness of breath occurs, and when the vital capacity is from 75% to 50% a patient may be up, but when it has reached 40% or below the patient is bedridden.

Ventilation of the lungs provides for an interchange of gases between the external air and blood. The circulation maintains the interchange in the pulmonary alveoli and the tissue. If either the circulation or the air in the alveoli change or become deficient, the interchange in the tissue is lessened, so one may see that the functioning of the tissues, the circulation and respiratory system is a single complex unit.

As has been stated, dyspnea is due to a decrease in vital capacity, with an increase in residual air in the lungs. Then, the question is, what actually happens that causes cardiac dyspnea? It is due to the limitation in the movements of the lungs produced by engorgement of the pulmonary vessels, and due to this limitation, the ability to exhale is diminished, thereby decreasing the vital capacity and increasing the amount of air in the alveoli and dyspnea occurs when the tissue demands more oxygen than the blood supply contains. Carbon dioxide increases which stimulates the respiratory system, causing a labored respiration. Those suffering of cardiac disease cannot increase the depth of respiration as can be done in a normal circulation. For instance, an individual at complete rest exhales 400 c.c. of air each breath at 15 per minute, but in exercise may increase this capacity to about 2,000 c.c.'s each expiration, at 30 per minute. In the cardiac diseased individual, due to this pulmonary engorgement which limits the movements of the lungs, they cannot breathe deeply, which limits the vital capacity, so they breathe forcefully and rapidly in order to attempt to get the required amount of air. The patient with advanced heart disease has orthapnea, because they have a greater vital capacity in the upright position.

The other symptoms of left heart failure are of less frequency and less important. The irregular breathing, called Cheyne-Stokes breathing, is common in advanced heart disease. Also attacks of acute pulmonary edema may occur. In this condition there is a red, frothy sputum. It is a dengerous signal. A nocturnal cough or restlessness may be a cardiac symptom. It is usually very resistant to treatment and indicative of a bad prognosis.

Hypertrophy of the left ventricle is the second most frequent indication of left heart failure. There are many causes of this condition, such as aortic disease. This is a most common condition in both young and old. In the young it is due usually to syphilis or alcoholism, and in children and young adults it is due to rheumatic fever or some condition causing disease of the mitral valve. In those past middle age it is due to hypertension, arteriosclerosis or kidney disease. These are only the most frequent causes. The enlargement of the left ventricle may be either hypertrophy or dilitation. If it is hypertrophy, the impulse at the apex is forceful or heaving in character; when it is feeble and diffuse it denotes dilitation. There is one other thing I should like to call your attention to here, and that is this condition often causes digestive disturbances or neurosis.

Next may we consider the symptoms of right heart failure. As you recall, the first and most frequent symptom is edema and effusion in the serous sacs. Edema is usually defined as an excessive or pathologic accumulation of lymph of normal or modified composition in the cells, intracellular spaces or serous cavities of the body.

There are two main types of edema, renal and cardiac. One may find it necessary to deal briefly with renal edema, in order to make more clearly the causes of cardiac edema. There are four main factors involved in the cause of edema. It is due to disturbances in the forces which control the direction and flow of fluid through the body membranes. These four forces are: (1) Diffusion pressure; (2) hydrostatic pressure, that is, capillary blood pressure; (3) the osmotic pressure of the blood proteins; (4) difference in electrical potential. It is to Starling that we owe the first clear explanation of the significance of the osmotic pressure of the proteins. He shows that there must exist at the capillary wall a balance between a filtration outwards due to blood pressure, and an osmotic current inward, due to the osmotic pressure of the proteins. It is clear, therefore, that any increase in the capillary pressure will, by disturbing the balance, cause increased outward flow of water.

Let us first enumerate the chief known characteristics of cardiac edema:

1. The fluids accumulate in the dependent parts of the body.
2. The concentration of the plasma is unchanged.
3. The arterial pressure is decreased.
4. The capillary and venous pressure is increased.
5. There is an increased back pressure on the lymph flow.
6. Increased viscosity. Increased volume of red cells.
7. Decreased ventricular contraction, causing a decreased output of the heart, due to right ventricular deficiency.

Therefore, may we conclude then that cardiac edema is increased capillary pressure, acting along with gravity, forcing the fluids out into the cells, intercellular spaces, and that effusions into serous cavities are due to the same mechanical means.

Renal edema is different. It is widespread in distribution and is independent of gravity. There is a marked reduction in the protein concentration of the blood plasma, affecting mainly the albumin fraction, the fibrinogen fraction being increased. Since the osmotic pressure of the proteins is less than normal, fluid is driven through the capillary walls by the capillary pressure.

The other symptoms and signs of right heart failure may be dealt with in a brief, collective manner. Cyanosis in right heart failure is due to inadequate aeration of the blood in the lungs. We know this is true because both venous and arterial blood snow high oxygen unsaturation. This is due, no doubt, to a sluggish state of capillary circulation from lack of force of the right ventricular contraction. We, also, often find the liver tender, or enlarged and tender, due to venous engorgement, and even the spleen in advanced cases. It should be mentioned here that oliguria is a very important sign of passive congestion of the kidney in right heart disease; much more important than albuminuria. Last, but of considerable value in diagnosing this type of heart failure, is that the apex beat is diffuse and weak with prominent pulsation in the epigastrium.

Treatment: First, before discussing the treatment of cardiac failure may we briefly outline treatment of nephritic edema, which is as follows: Rest, limited fluid intake, low salt, high protein diet, Theocalcine 7½ grains three times daily or some other good diuretic, and no digitalis unless it is associated with cardiac disease.

Digitalis is a most efficacious drug in heart failure cases. There are three specific indications for the administration of digitalis. If an irregularity of the heart needs to be controlled, if tone of the muscles needs to be increased, if contraction of the heart needs to be strengthened, then give digitalis. It is better to give ten grains a day for three days to digitalize the patient, then about three grains a day thereafter. A fresh tincture or powdered forms are more dependable for their potency. Other preparations may deteriorate.

The three-fold action of digitalis is that it restores the heart to its normal or regular rhythm. Second, is on tone of muscle, that is to say, it increases cardiac tone. This causes a decrease in size of the heart, in other words, the heart has been made a smaller pump. A third effect is the action on contraction, the extent of the ventricular contraction is increased. This tends to increase cardiac output, for cardiac output is a function of size of the heart and ventricular contraction. If cardiac size is not smaller than a critical value, increase in ventricular contraction over balances decrease in size, when digitalis is given, so that cardiac output increases beyond that initial value. Therefore, the edema and other symptoms in cardiac failure is relieved by digitalis, due to the fact that it increases cardiac output and relieves the venous engorgement, which in turn relieves the increased capillary pressure, allowing the blood stream to resume its balanced function.

Morphine grains 1/6, atrophine grains 1/150 may be given in severe attacks of cardiac dyspnea. Morphine depresses the respiratory center, which is over stimulated by an increased CO2 of the blood. Also, it keeps the patient quiet which decreases the amount of oxygen that the tissues of the body require. This should only be given until the patient can be digitalized, or in the end stage of heart failure when death is inevitable.

In conclusion, the treatment of cardiac failure is rest, digitalis, well balanced diet, and if cardiac edema is present, low salt diet and limited fluid intake. No diuretic is necessary. If the circulatory efficiency is restored, the edema will immediately disappear.

PREMATURE INFANTS: A REPORT OF 118 CASES*

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THIS report includes a study of 118 infants admitted to the Nashville General Hospital during the period from January, 1926, to July, 1930. Five of the cases in this report were born outside of the hospital and brought in during the first days of life, while the remaining 113 cases were born at the hospital. During the entire period covered by this report the same staff physician was in charge of the Pediatric Service. The nursing staff is made up of a graduate nurse in charge and student nurses. Over 95 per cent of these admissions were charity cases.

Frequency of Prematurity—The frequency of prematurity as reported by different observers varies all the way from 10 to 20 per cent. Ylppo states that in 10 per cent of all births in Germany, infants are immature. Edgar, from statistics gathered from all over the world, found that premature births comprise about 17.5 per cent of all deliveries.

Prematurity and Number of Pregnancies—The number of pregnancies seem to have a very definite relationship to the frequency of premature births. In 26 cases the gravida was not mentioned. Of the remaining there were 58, or 63 per cent, primiparas, 13 in which the premature was the second born, and 12 the third born infant. From Table I it is seen that there is a definite and proportionate decrease in the number of prematures with an increase in the number of pregnancies.

Prematurity and Sex and Color—There seems to be little difference in the relative frequency of prematurity in boys and girls. There were 55 males and 63 females in this series. The ratio of white to colored was 2 to 1, there being 80 white infants and 38 colored infants.

TABLE I

Relation of the Number of Pregnancies to the Frequency of Prematurity

No. of Pregnancies	No. of Cases
First	58
Second	13
Third	12
Fourth	3
Fifth	3
Sixth	2
Seventh	1
Not mentioned	26
Total	118

Etiology of Prematurity—The causes of prematurity may be divided into two general groups, first, those resulting in the birth of a healty but immature infant, and second, those in which the infants are damaged due to toxicity or disease of the mother.

In the first group may be included accidents, heavy lifting, premature rupture of the membranes, either accidental or intentional, and placenta praevia.

The second group takes in all those cases of acute and chronic diseases which react harmfully on the fetus, some only to a slight degree, while others, such as syphilis, tuberculosis, nephritis, and severe toxemia, produce a more profound disturbance to the nutrition and development of the fetus.

In a large majority of the cases in this series the cause of prematurity could not be determined. In fifty-four, or 45 per cent of the cases a complete history and thorough physical examination failed to disclose any condition or disease that could be assumed to be the cause of the premature expulsion of the fetus.

Syphilis was the *most common* cause of premature labor among the 118 cases reviewed. Hess and Chamberlain call attention to the *small role* that syphilis plays as an etiological factor in prematurity. In a study of 266 cases they found only eight cases of syphilis. Capper, of Vienna, reports only 13 cases out of a total of 437 in which the cause could be assumed to be due to syphilis. In this series there were 18 cases of syphilis, or 15.5 per cent of the total number. Multiple pregnancy was the next most common single cause of premature labor, there being 13 cases. There were fifteen cases of chronic diseases of the mother, six cases of acute diseases of the mother, eight cases of toxemia of pregnancy, two cases of placenta praevia, and two cases of artificial induction of labor. It can be seen from these figures that approximately 40 per cent of the causes of prematurity can be attributed to conditions which react unfavorably on the fetus. This I will take up more in detail under factors influencing the mortality.

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*Read before the Nashville Academy of Medicine, November 11, 1930.

*From the Pediatric Service, Nashville General Hospital, Department of Pediatrics, Vanderbilt University, Nashville, Tenn.

TABLE II

Etiological Factors Influencing the Termination of Pregnancy

Diseases of Mother	No. Cases	Per Cent	Died	Per Cent
Syphilis	18	15.5	15	83
Multiple Pregnancies	13	11	12	80
Chronic Diseases of Mother — (Amebic Dyssentery 1, Nephritis 5, Carcinoma of Cervix 1, Pulmonary Tuberculosis 2, Heart Disease 1, Chronic Salpingitis 3, Diabetes 1)	15	12.6	13	86
Acute Diseases of Mother —(Acute Infection 2, Pyelitis 2, Gonorrhea 1, Pneumonia 1)	6	5.5	3	50
Toxemia of Pregnancy	8	7	3	40
Placenta Praevia	2	1.7	1	50
Artificial Induction of Labor	2	1.7	2	100
Causes unknown	54	45	41	75
Total	118	100.0	90	75.5

Mortality—The mortality of prematurity is very high. This high mortality has been brought out strikingly in comparison with the mortality of all infants. Holt and Babbitt have found a general mortality of 3 per cent among 9,571 infants, prematurity being responsible for 50 per cent of these deaths. Statistics for Nashville for the year 1929 show that there were 326 infant deaths, and of this number, 98, or 30 per cent, were due to prematurity. There was a total of 188 infant deaths among the new-born at the Nashville General Hospital during the period covered by this report, prematurity being responsible for 47 per cent of these deaths.

There were 90 deaths among the 118 cases or a gross mortality of 75.5 per cent, 67, or 75 per cent, of the total number of deaths occurred on the first day. Of the remaining 51 cases the mortality was 45 per cent. After the first week the death rate dropped to 30 per cent. LaFetra, in 1917, reported a series of 200 prematures admitted to the infants' ward at Bellevue Hospital with a gross mortality of 85 per cent. Ninety died on the first day and 28 on the second and third day, making a mortality of 59 per cent for the first three days. Hill, in the American Journal of Diseases of Children for July (1930), reports a gross mortality of a fraction over 80 per cent on 153 infants admitted to Bellevue Hospital during the two years, 1926-28. Hess and Chamberlain of Chicago report 266 cases, with a mortality of 48.1 per cent.

Factors Influencing Mortality—The mortality is influenced by several main factors, the first to be considered is the cause of prematurity. There are certain diseases in the mother in which the chances of the child to survive are especially unfavorable. This is particularly true of syphilis, tuberculosis, nephritis, toxemia of pregnancy, and many of the chronic diseases of the mother. From Table II it can be seen that in 46 per cent of the cases the cause of prematurity was due to certain conditions which impaired the vitality of the new-born infant. The mortality in multiple pregnancy seemed to be somewhat higher than in single pregnancies. Many of these infants weighed less than a thousand grams, or 2.2 pounds, and all weighed less than 1,500 grams, or 3.3 pounds. There were 18 cases of syphilis with an infant mortality of 83 per cent, 13 cases of multiple pregnancy with an infant mortality of 80 per cent, and 15 cases of chronic diseases of the mother, with an infant mortality of 86 per cent. The two cases of artificial induction of labor were in fact self-induced criminal abortions, both of these infants dying.

The second factor to be considered is the period of utero-gestation. The period of utero-gestation was estimated from information given by the mother and in about 31 cases this information could not be obtained. That the period of utero-gestation had a definite influence on the mortality is shown by Table III.

TABLE III

Period of Utero-Gestation

	Died	Lived
Sixth Month	32	4
Seventh Month	24	9
Seven One-half Months or later	7	11
Unknown	27	4

There were 36 prematures born on or before the sixth month of pregnancy with a mortality of 88 per cent, 33 born at the seventh month with a mortality of 72 per cent, and 18 born seven and one-half months or later, with a mortality of 38 per cent. The average length of utero-gestation was about seven months.

The third factor in the mortality of prematurity is the weight at birth.

TABLE IV

Mortality of Premature Infants Arranged According to Weight Groups

Died Within	Under 1,000 Gm.		1,000 to 1,500 Gm.		1,500 to 2,000 Gm.		2,000 to 2,500 Gm.		Over 2,500		Unknown		All Cases	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Six Hours	10	66.6	22	64.7	9	25.7	--	----	--	--	7	63.6	48	41
Twelve Hours	14	90.3	24	70.5	12	34.2	5	27.7	--	--	10	90.9	65	55
Twenty-four Hours	14	90.3	24	70.5	12	342.	6	33.3	--	--	11	100.0	67	56.6
One Week	15	100.0	28	82.3	16	45.7	8	44.4	--	--	--	----	78	66.1
One Month	--	----	30	88.2	19	54.2	10	55.5	1	20	--	----	86	72.8
Three Months	--	----	32	93.0	20	57.0	11	61.0	1	20	--	----	90	75.5

TABLE V

Mortality According to Weight

Weight in Grams	Number	Per Cent of Total	Per Cent Mortality
Less than 1,000	16	13.6	100
1,000 to 1,500	34	28.8	93
1,500 to 2,000	35	29.7	57
2,000 to 2,500	18	15.2	61
Over 2,500	5	4.2	20
Unknown	10	8.5	100

Table IV shows the mortality arranged according to weight groups. The average weight for the entire series was 1,530 grams or three pounds and five ounces. Of those that lived the average birth weight was 2,056 grams, or four and one-half pounds. There were fifteen cases under 1,000 grams, all of whom died. The majority of the cases weighed between 1,000 and 2,000 grams. There were 11 cases that died before they could be weighed and most of these would in all probability have come in the group weighing under 1,500 grams. About 41 per cent of these infants were dead at the end of six hours and 55 per cent at the end of 12 hours. These percentages bear out the general opinion that the first day is the most hazardous for premature infants. After the first twelve hours the infants in this series stood a slightly better than even chance to survive—the mortality for those that survived the first twelve hours being 47 per cent. Of the infants weighing a 1,000 grams or less, 90 per cent died within the first twenty-four hours. Those from 1,000 to 1,500 grams, 70 per cent died within this period; those from 1,500 to 2,000 grams, 34 per cent died within this period; those from 2,000 grams to 2,500 grams, 27 per cent, and those over 2,500 grams, none died within the first twenty-four hours. This indicates that the weight at birth plays the most important role in the prognosis of a premature infant, while nursing care, prevention of infection, and proper feeding play a secondary role.

The fourth factor that influences the mortality of these cases is the temperature on admission. Most of these cases were delivered on the same floor to which the infants are carried after birth. However, many of the infants may have been chilled during the transfer.

TABLE VI

Temperature on Admission—Relation to Mortality

	Temp. Unknown Died before Temp. taken	Degree of Temp. 92	93	94	95	96	97	98	99
No. of Cases	38	2	2	7	7	16	18	22	6
Died	38	2	2	7	6	12	10	9	4
Mortality (%)	100	100	100	100	85	75	55	43	63

From Table VI we can see how the mortality decreases with a temperature approaching normal, while all the cases with temperature below 94 degrees died. There were 38 cases that died within a few minutes after birth.

Care and Feeding—The important factors to be considered in the care of premature infants are (1) maintenance of body temperature, (2) prevention of infection, and (3) adequate food.

The importance of maintaining a normal body temperature is obvious. The Hess incubator where available is perhaps the best for this purpose. There is only one of these incubators in the Nashville General Hospital and at times it is necessary to improvise means for providing the required temperature environment. The factors to bear in mind are fresh air, warm air, and moist air. For this purpose an ordinary bassinet, well padded and covered, with the exception of the head, is used. Eight to ten hot water bottles are placed around the crib and changed often enough to maintain a temperature of from 85 to 90 degrees. After two to three weeks the bed temperature is lowered to room temperature provided the baby can maintain a regular normal body temperature. There is no special provision for ventilation and humidity. Ventilation is supplied by means of windows and doors. The air is kept moist by means of wet sheets and towels spread out in the room whenever it is deemed necessary.

Except for the extremely small babies, all prematures are dressed very much as the other new-born babies. A small cotton jacket and an ordinary napkin is about the extent of the clothing. The covering is light and warm. As a rule these infants show little tendency to move about, and while there was no special mention made of exercise in the written orders on the clinical records, it is believed by some authors that three minutes of routine exercise morning and night is beneficial.

Very few cases of upper respiratory infections occurred in the cases studied. There were only six cases in which a diagnosis of broncho-pneumonia was made, two cases of otitis media, and five cases of severe diarrhea. The premature infants were cared for in the same nursery with all new-born babies. Only the nurse in charge is permitted to care for the new-borns during the day, however, the nurse on night duty must care for both the new-borns and other sick babies in the ward. In spite of this a small per cent of the babies developed upper respiratory infections.

Food—Breast milk is by far the most ideal food for these infants, and whenever it is possible to obtain breast milk no other milk should be substituted. If it becomes necessary to resort to artificial feeding the greatest care must be exercised in selecting a food that can be handled by the infant in quantities sufficient for a normal gain. The type of artificial food used for the most part was simple milk dilutions, either with fresh cows' milk or evaporated milk, and in some cases, lactic acid milk.

The method of feeding varies depending upon the condition of the infant. Many of these cases were not strong enough to nurse and these were fed with a medicine dropper or Breck feeder until they could nurse the breast. When feeding by dropper causes cyanosis or when the infant is unable to swallow catheter feeding is used.

During the first twelve hours all food is withheld. After this time the infant was placed on a regular schedule. The number of feedings in twenty-four hours varied according to the type of feeding instituted. In the case of catheter feeding, fewer feedings are given. On the average eight feedings in twenty-four hours were given; however, some cases were fed every two hours. Beginning on the second day the majority of the cases were given from one-fourth to one-half ounces of breast milk every two to three hours. This averages around twenty-five c.c. per pound body weight in twenty-four hours. This quantity is gradually increased until at the end of two weeks the infant is receiving 75 to 100 c.c. per pound of body weight. The amount of milk given at each feeding of course varies with the condition of the infant, the gastric capacity and the interval between feedings. Water in an inert form is given between feedings. Iron and cod liver oil are given early because of the tendency of prematures to develop anemia and rickets.

The average stay in the hospital for those cases that survived was 56 days and the average gain per day was .4 of an ounce.

CONCLUSIONS

1. Of the various etiological factors influencing prematurity, syphilis comes first with 18 cases, or 15.5 per cent of the total cases. Multiple pregnancy was the second most frequent cause of prematurity. In about one-half the cases no cause can be found.

2. The mortality rate of 75.5 per cent, while somewhat higher than some reports, is perhaps a good average for similar institutions.

3. The weight at birth plays the most important role in the prognosis of a premature infant. The other important factors in order of importance are: temperature on admission, toxicity and disease of the mother, and care and feeding.

4. The care and feeding can be summed up as follows: (1) maintain normal body temperature of 98.6 degrees, (2) prevent infection, (3) proper food, which is, whenever obtainable, breast milk.

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ARE THE INTIMACIES NOW INDULGED IN BETWEEN THE SEXES OF YOUNG UNMARRIED PEOPLE DETRIMENTAL, EITHER IMMEDIATE OR REMOTE?*

H. L. FANCHER, M.D., F.A.C.S., Chattanooga

IT IS my opinion that this thought is worth an excursion into the side-paths of our learned profession. It is especially important to the family physician, obstetrician and gynecologist.

Young people are now less prudish and more inquisitive about sex problems and because there is increasingly less home life and mother control, physicians must be in position and willing to give instructive and protective advice.

There is an old Latin proverb which says, "Experience keeps a dear school, but fools learn in no other." I do not know what a fool is, or do I know what kind of experience was referred to in the above quotation, but I do know that "Experience" in Sexology from the standpoint of the young and uninitiated is more often destructive than otherwise.

In my discussion of this condition I am not interested in the so-called "delinquents": females who find their way to the "streets" and "bawdy houses" early in life. They are, by evolution and other natural causes, eliminating their kind. I am thinking of your daughter and mine.

Women have not been taught honesty in the way in which men have been. It is not necessary in their line of work. No woman is truthful, because she has been taught to lie. But she has been taught religion and virtue, and instinctively or inherently she is intuitive and impulsive.

She is not a good provider because she does not look to the future. But she is a kind of economist, as she will burn gallons of gas, wear out shoes and exhaust herself to save a few pennies in an afternoon shopping expedition. On the other hand, she will spend all her earnings to make herself more attractive, more beautiful, more alluring.

Today a girl is independent in that she can go where and when she wishes, with or without an escort. She can smoke and drink with impunity in her private boudoir or in company. She can preach or speak in public, vote and hold any office within the United States of America, provided she can get elected.

Today a girl is a slave in that she has been thrown out into a new world, one that her mother never knew or dreamed of, and she is lost in the thrill of it all. She is unprepared for the temptations she unconsciously invites. She also has all the weaknesses and inherent frailties of her mother and all the women who have gone before her. Namely, her susceptibility to flattery, attention, gifts and favors.

Now, with all this complexity of things, how can we be of service and what will be the final evaluation?

I will quote you an excerpt from a letter I recently received from a college girl away from home, who is a daughter of a physician friend of mine:

"This is a confidential letter. I want you to tell me some things: Do all people who are in love with each other have this problem to contend with? When I kiss R—— I am conscious of a fluid escaping and it's nothing I can control, but it makes me feel rather weak. The same thing that happens to R—— doesn't happen to me, but he says it isn't a healthy proposition for him and it is very rare that he gives in to it. But it isn't a matter of me "giving in." It just happens when I kiss him. You know its natural to kiss a person you love and I see R—— every evening and lots during the day. He can kiss me and still keep control. I just wanted to ask you if that was something natural and all right or not, for that fluid to appear. Don't be embarrassed to tell me anything, because ignorance along things in that line is the cause of many troubles, isn't it?"

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*Read at the meeting of the Upper Cumberland Medical Society, Red Boiling Springs, June 11th, 1930.

This young college girl, the daughter of one of my best doctor friends, is sincere and frank and expected me to be the same. After thinking for some time I wrote her as I would have replied to a daughter of one of you and I will read you my reply:

"My Dear: If you could be sitting near my desk today and ask me those questions I could give you a much better lecture than a letter on the all-absorbing sex-love-passion problem, or rather question; for it is more a question than a problem because problems can be solved, but questions are difficult to answer, whether one is a pupil or teacher.

"There is an old saying, 'Be temperate in all things and totally abstain from that which is destructive in its nature.' Allow me to take the above quotation for a text and I will now preach you a Sunday morning sermon.

"Normal male and female are so different from each other that they are attracted to each other, and when it happens to be two self-respecting but impulsive young human beings it is like a spinning top with a gyroscope in it. Were it not for the inhibiting, regulating gyroscope the damned top would run away with itself, tumble and probably be ruined.

"Attraction between male and female, Love, Passion: The desire to communicate by letter or phone; to be near each other, to touch, to fondle, kiss, embrace, have sexual intercourse, are all perfectly normal attributes and probably represent the spinning top, but the individual must have the controlling inhibiting gyroscope or the pretty spinning top will be seriously scarred or maybe destroyed.

"In intra-uterine life the sex of the embryo is not determined up to a certain period of development when the sex organs (overies in the female and testicles in the male) starting alike but begin to do and develop in an entirely different way. The testicle must get outside the body and the ovary must stay inside the body to function.

"Each has a very rich blood supply, and a wonderfully complex nerve supply, controlled by the sympathetic system of nerves. The behavior of these organs as well as the rest of the genital system is determined largely by psychic stimulation.

" 'As you think so you are' is a liberal translation of a sacred proverb. There is a gradual approach to the mating time of all animal life and human beings are not unlike the rest of the animals in this respect. Early adolescence in the human being is a veritable storm center in both sexes, and wisely so. Why? Because it is nature and nature is God. If it was not for the overpowering effect of sexual passion there would be no unions and no offspring, for the dread and responsibility of offspring would prevent God's plan of repopulating the world.

"The desire for all sexual intercourse, conscious or unconscious (the culminating act of all love-making), is held under control by the gyroscope. Eugenically speaking, there is no excuse for sexual intercourse except to beget another being and that practically eliminates pleasure and selfishness. Eugenics has not, so far, been of any practical value to the impulsive, passionate young love-maker. The gyroscope above mentioned must come from the home with its parental care, the church with its religious fervor of love and fear, or from the sound, wholesome advise from the physician.

The home has about relinquished its rights and its duty and I am fearful that the church is loosing its grip on the morale of its young communicants. Therefore, more responsibility rests on the physician.

"The female makes the greater sacrifice. Nature proclaims it and the condition cannot be changed. If John and Mary go the limit through all the gradations of love-making and have sexual intercourse, either one may get a venereal disease. It would hurt John very little, but would be a thousand times more serious if Mary contracted it. If a pregnancy results John is not worried or handicapped very much, but Mary goes nine months of worry and embarrassment and is a mother with all the humiliation that could possibly come to a girl. Or she would go to an abortionist and run the risk of an infection, to say nothing of destroying an unborn life which cannot, at that time, cry in its own defense.

"Mary has no right to culminate her love affairs by sexual intercourse, with anyone except the fellow who she selects, among all her availables as the one she prefers to be the father of her children, and she should be deliberate enough in this matter to bind this fellow by all legal rights of a formal marriage and should be sure to select one who can and will support. So, in the final analysis, sense and good judgment play a much more important role in mating than sentiment alone. But Mary is often unwise.

"Why should Mary and John marry? Why not go the limit and try each other for a year? Because it is such a one-sided affair with nine-tenths of the burden and responsibility on Mary. The usual thing is this: They have intercourse and John at once decides that others have or can do the same thing with Mary and he has too much self-respect and consideration for his family to bring Mary into the family by marrying her.

"Now back to my text, 'Be temperate in all things." Long engagements, frequent love-making, more or less constant thinking of sentimental and sexual things cause, through psychic influences, and impulses through a sympathetic nervous system, a state of congestion in the generative organs, and as the female genital canal is lined with mucus membrane, its glands same as those of the nose and throat, and when there is a discharge from the genital canal following any form of love-making, it simply means that there has been an undue congestion and nature relieves that congestion by an outpouring of mucus.

"The semen which a man ejects when orgasm occurs with intercourse is entirely a different condition. A woman who is normal, when having normal intercourse, will have normally a discharge at time of orgasm, but it is nothing but mucus.

"In conclusion: You are thinking, talking, acting too much sex. You are dissipating in lisencious thinking. You are keeping your genital organs constantly overstimulated; when, in fact, they do not need it. It is destructive to have illicit or illegal sexual intercourse. Therefore, my text, 'Be temperate in all things and totally abstain from that which is destructive in its nature.' Also, remember my supporting quotation, 'As you think so you are.' "

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H. H. SHOULDERS, M.D., Editor and Secretary

APRIL, 1931

EDITORIAL

FIFTY YEARS OF SERVICE

To perform an usual service in an unusual way is a mark of distinction. For one to accomplish the unusual in a very unusual way is a greater mark of distinction.

To live for fifty years, or even seventy years, may not entitle one to any credit whatsoever, but for one to fill fifty years full of active medical service is unusual, and for one to fill the fifty years with the type of service that has been rendered by Dr. K. S. Howlett, of Franklin, Tenn., is very unusual and entitles him to a marked distinction in the field of medicine. In his fifty years he has done a large practice. He has kept himself abreast of the progress that has been made in medicine in this half century—which alone is an enormous task. He has stood for the highest ethical standards in his contacts with patients and in his contacts with other members of the profession. He has found time to become a civic leader and a leader in church activities.

This is not an obituary, because the subject of this little editorial is very active yet. It is a small tribute to a member of our profession, who is entitled to much more.

THE LIAISON COMMITTEE

In 1928 the chairman of the Committee on Public Health recommended the creation of a Liaison Committee. The committee used the following language:

"Your Committee further finds there is no official means of approach between the health agencies of the State and the State Medical Society. The president, vice-president, secretary, nor even the councilors, have authority to speak for the organized profession, and in view of this condition, we would therefore recommend that the House of Delegates create a liaison committee composed of three representative men, one from each grand division of the States, clothed with the authority to council with the health agencies and speak with authority for the State Medical Association upon any subject of Public Health and Preventive Medicine, which alike concern the public health agencies and the profession as a whole, especially policies and practice in the State's endeavor to control contagious and communicable diseases to the end that there may be maintained a mutual understanding and a cooperation between the two in handling the questions which are getting so much attention from the people as a whole."

This committee has very important functions to perform. Your Secretary cannot speak for the Association. Your Legislative Committee cannot speak for the Association on the matters referred to in this report. Such a duty is not a duty on the part of the Committee on Public Health.

An increasing number of complaints come from members of the Association throughout the State. There is a large task to be performed by such a committee. It is believed that it should be created by definite amendment to the by-laws and that the number should be increased and that it should be a committee that does not change completely from year to year to the end that there is continuity of policies and a definite understanding of policies that are formulated from time to time.

It is sincerely hoped that the House of Delegates will give serious thought to this matter.

THE COMMITTEE ON THE COST OF MEDICAL CARE

On the general subject of illness and dependency the Committee on the Cost of Medical Care submits in Bulletin No. 9, some data, while not particularly new, serves to emphasize some points which the general public and the committee, too, might conjure with.

It has been known for a long time that there is a definite relationship between illness and mortality rates and the economic status of people. The two following tables are reproduced from the Bulletin referred to above.

MORBIDITY RATES

	Cases per 1,000 Persons	Ratio to Rate for Well-to-do
Well-to-do	252	100
Moderate	272	108
Poor	326	129
Very poor	364	144

MORTALITY RATES

	Death Rate per 100,000	Ratio to Rate for Upper and Middle Classes
Upper and middle classes	743	100
Intermediate	862	116
Skilled laborers	870	117
Intermediate	921	124
Unskilled laborers	1,151	155

It will be noted that there is a very slight difference in the illness and mortality rates of the group classed as well-to-do and the group classed as moderately well-to-do. There is an enormous difference between the mortality rates of the group classed as moderately well-to-do and the poor.

It has not been shown that the illness and mortality rates are due to lack of medical attention, though illness and death in isolated instances are responsible for poverty, but not for a continued state of poverty. It is due in the main to the very conditions of their existence.

Another fact that we should drive home at once is that in the main, illness is not a cause of poverty, but a result of poverty.

We shall make no attempt to explain poverty, but we will assert that no sort of preventive or curative medicine alone will prevent or cure poverty. The cure of poverty is a problem for the very economists who are devoting their attention to the cost of medical care. It is an economic problem, not a medical problem, and the sooner the economists realize this fact and devote their energies to its solution the sooner will genuine progress be made. Its cure will certainly not be found in the socialization of medicine.

FOUNDATIONS AND THEIR TRENDS

On the above subject Dr. Samuel J. Kopetzky made a report to the Medical Society of the County of New York on February 23rd, 1931. This report is of wide general interest not only to the profession of medicine, but to the public. We have deemed it worthy of space in the Journal.

NEWS OF WOMAN'S AUXILIARY

THE WOMAN'S AUXILIARY TO THE TENNESSEE STATE MEDICAL ASSOCIATION

MRS. MAE LEWIS

President of the Woman's Auxiliary to the Tennessee State Medical Association.

At the meeting of the Southern Medical Association held in Louisville in November, 1930, she was elected Second Vice-President of the Woman's Auxiliary to that organization. Mrs. Lewis is the wife of Dr. Milton Smith Lewis of Nashville.

Advisory Council for year ending April 16, 1931:

Dr. Joseph Gallagher, Chairman, Nashville.
Dr. Kyle C. Copenhaven, Knoxville.
Dr. J. A. Crisler, Memphis.
Dr. N. S. Walker, Dyersburg.
Dr. N. A. Laws, Chattanooga.

The following is the corrected program of the Annual Meeting of Woman's Auxiliary:

Tuesday, April 14th—

9-11 Pre-convention meeting, Board of Directors, Andrew Johnson Hotel.
Afternoon tea with Mrs. W. W. Potter.
Evening bridge party at home of Mrs. Oliver Hill.

Wednesday—

9-11 Annual open business meeting, Andrew Johnson Hotel.
12:30 Luncheon, Cherokee Country Club, followed by motor trip to Interesting Garden and to Blount mansion.
7 p. m. Dinner.

Thursday—

9-11 Post-convention meeting, Board of Directors, Andrew Johnson Hotel.
12:00 Luncheon at Druid Hill Tea Room, followed by 120-mile motor trip to Smoky Mountains.

Only a partial list of delegates is obtainable at this time.

Davidson County, with Mrs. Theodore Morford, president, reports the following appointment of the doctors to serve for the following year on the Advisory Council:

Dr. Robert Sullivan, Chairman;
Dr. Milton Smith Lewis,
Dr. Robert Sullivan.

Mrs. R. N. Herbert, Educational Chairman, announces the following subjects for this year's study: "Medical Organization," "Medical Legislation," "Periodic Health Examination," "Pre-school Examination." Mrs. W. O. Floyd serves as chairman of Motor Corps for assisting Davidson County Charity Commission.

Shelby County Auxiliary has more than doubled its membership since opening the tea room in February of this year, the proceeds of which go towards the $10,000 Student Loan Fund. Knox County ladies completing plans for the entertainment of all visiting ladies and Auxiliary members during the Annual Meeting of Tennessee State Medical Association. Mrs. W. W. Potter, chairman of hospitality of State Auxiliary, serves as official hostess.

The Message From the President.

There is no doubt in my mind that the Woman's Auxiliary has a great future in this State. The work accomplished by our neighbors on all sides shows us that if we do not go ahead we will have to stand still alone. There is much to be done and as our Doctor husbands go forward, so must we. That we have had such cooperation from our advisory council we are most fortunate; Dr. Gallagher has at all times been the soul of patience with us.

I wish to take this opportunity to thank Dr. H. H. Shoulders, Editor of this journal, for his kindness and cooperation during my administration. His help has been invaluable in the editing of the items under the heading of "News of the Woman's Auxiliary."

(Signed) MRS. MILTON SMITH LEWIS

DEATHS

Dr. George W. Moody, Shelbyville; University of Pennsylvania, Medical School, Philadelphia, 1869; aged 84; died March 24th after an illness of several weeks.

Dr. J. F. Hill, Memphis, Memphis Hospital Medical College, 1887; aged 71 years; died March 8th.

NEWS NOTES AND COMMENTS

Dr. Jere Crook, of Jackson, has returned home from Baltimore after a lengthy illness.

Dr. W. B. Barton, formerly of Cowan, was a visitor at some of the Nashville hospitals and clinics in March. Dr. Barton is now practicing in Briceville.

Dr. Beulah M. Kittrell, of Knoxville, has opened an office in the Medical building.

Dr. James R. Hamilton has opened an office in the Medical Arts Building, Knoxville. His practice is limited to ear, eye, nose and throat work.

IN THE PSYCHOPATHIC COURT OF THE LOCAL COMMITTEE OF ARRANGEMENTS, IN AND FOR CITY OF KNOXVILLE, STATE OF TENNESSEE.

The City of Knoxville, a Corporation, and the Knox County Medical Society,
Plaintiffs,

VS.

All the Members of the Tennessee State Medical Association,
Defendants.

SUMMONS

To the Above Named Defendants, Greetings:

You and each of you are hereby directed to appear in person, and be present at the annual meeting of the Tennessee State Medical Association, April 14th, 15th and 16th, 1931, and then and there show cause, if any there be, why each and every one of you, together with your lady, whether the same be FEMME COVERT or FEMME SOLE, should not participate in all of the scientific, mental and physical divertisements provided for your special individual entertainment, education, sufferance, or what have you.

You are further informed that this is positively the last call and summons to appear before said COURT, and you are ordered to leave with the REGISTRATION COMMITTEE of said COURT your acceptance; excuses, alibis, horse radish, and all other kinds of apple sauce to the contrary notwithstanding.

Hence fail not herein under pain and penalty of the law and the judgment of this COURT that all in default hereunder shall be declared *note bebe, non compus mentis, functus officio, non est factum,* unconstitutional, dull and void.

Given under my hand and the squeal of said COURT this the 5th gay of April, 1931.

DR. TOM R. BARRY, *President*
DR. JESSE C. HILL, *Secretary,*
Knox County Medical Society,
Knoxville, Tennessee.

MEDICAL SOCIETIES

Bedford County—The members of the society were guests of Dr. T. R. Ray at the Rotary Club on March 19th, after which the society met in Dr. Ray's office. Dr. H. H. Shoulders, of Nashville, spoke on "Cholecystitis".

Dr. E. E. Brown, of Nashville, read a paper on "The Value of X-Ray Examination of the Chest."

Dr. J. P. Taylor, Wartrace, read a paper on "Endocarditis."

Davidson County—Programs in March were as follows:

March 10th: "Tumors of the Kidney in Children," by Dr. Henry L. Douglass. Discussion opened by Dr. Perry Bromberg.

March 17th: "Diagnosis and Management of Occipito-Posterior Position," by Dr. Sam Cowan. Discussion opened by Dr. Milton Smith Lewis.

March 24th: "The Effect of Cystocele on the Urinary Tract," by Dr. J. C. Pennington. Discussion opened by Dr. H. M. Tigert.

March 31st: "Movable Kidney," by Dr. Bransford Lewis, St. Louis. Following the Academy meeting the members of the

Academy were invited by the Alpha Omega Alpha Society to attend a lecture by their special guest, Dr. Minot, of Boston, on "The Treatment of Anemia" at the Neely Memorial Auditorium, Vanderbilt Campus.

Dickson, Hickman, Humphreys Counties—Reorganization of this Tri-County group was completed in February. Officers elected were as follows: Dr. L. F. Loggins, Charlotte, President; Drs. Hartwell Weaver, Dickson; R. K. Edwards, Centerville, and W. W. Slayden, Waverly, Vice-Presidents; Dr. R. P. Beasley, Dickson, Secretary.

Papers were read by Drs. W. S. Farmer and J. P. Gilbert, of Nashville.

The next meeting will be held in Dickson in April.

Giles County—The Maury County Society was invited to meet with the Giles County Society on March 26th. Dr. Shields Abernathy, of Memphis, was the speaker. His subject was "Lesions of the Cervix, With Special Reference to Treatment."

A large audience from each of the counties enjoyed the address.

Green County—The society met on March 10th at Hotel Brumley. Dr. E. R. Zemp, of Knoxville, read a paper on "Calcium Therapy." Dr. A. H. Lancaster, of Knoxville, read a paper on "Skin Cancer." A good attendance was present and the papers were given liberal discussions.

Hamilton County—Life insurance doctors addressed the meeting on March 5th. The speakers were Dr. B. F. Byrd, medical director of the National Life and Accident Insurance Company; Dr. E. M. Shepherd, medical director of the Life and Casualty Insurance Company, both of Nashville, and Dr. Charles R. Henry, medical director of the Provident Life and Accident Insurance Company, of Chattanooga.

Other programs were scheduled as follows: March 19th, "Aschheim-Zondek Test," by Dr. T. C. Crowell.

"Comparative Anatomy of the Larynx," by Dr. A. E. Goodloe.

March 26th: Paper by Dr. Charles E. Downman, Atlanta, Ga.

April 2nd: Paper by Dr. D. C. Wilson, University of Virginia, Charlottesville.

April 9th: Paper by Dr. W. D. Haggard, Nashville.

Knox County—The following papers have been read before the Knox County Medical Society.

March 17th: "The Clinical Problem of Bronchial Asthma," by Dr. Burton Hazelton, Chicago.

"The Internist's Problem," by Dr. A. W. LaForge, Chicago.

"The Rhinological Technique," by Dr. Dean W. Myers, Ann Arbor, Michigan.

March 24th: "Peptic Ulcer," by Dr. Dewey Peters.

March 31st: "Bad Results in Treating Fractures, and Their Prevention," by Dr. Robert Patterson.

Madison County—At Jackson the movies still hold the boards. Three pictures were shown at the meeting on March 3rd.

Robertson County—Dr. R. L. Mathews read a paper entitled "Edema of the Ankles," in which he discussed the causes, symptoms and treatment. A large attendance was present.

Smith County—At the meeting on March 6th Dr. Rhea Garrett read a paper on "The Treatment of Pneumonia." Dr. J. J. Beasley opened the discussion. Many interesting cases were reported.

BOOK REVIEWS

MODERN METHODS OF TREATMENT, by Logan Clendening, M. D. Fourth Edition. C. V. Mosley Co., 1931. Price, $10.00.

The fourth edition of this text since its publication in 1924 speaks for its usefulness and popularity. The third edition was reviewed by the writer in Volume XXIII, 1930, with the opinion that its conciseness, yet fullness of descriptive material, rendered the volume almost a necessity in one's library.

The fourth edition, with the exception of new procedures described, remains unchanged. The brevity and exactness could not with advantage be changed. To chapter thirteen has been added the technique of Cisternal Puncture, with illustrations taken from Dr. Albert and a table of indications and contraindications by Bennett.

To the chapter on "Diseases of Ductless Glands" there have been added short notes on Myxedema and Cretinism and on Addison's Disease.

For very quick reference, and as a book in which one may expect to find what he is looking for, the reviewer recommends the text.

—R. B. W.

A New Fourth and Thoroughly Revised Edition of DISEASES OF THE CHEST AND THE PRINCIPALS OF PHYSICAL DIAGNOSIS, written by George William Norris, A.B., M.D., and Henry R. M. Landis, A. B., M. D., Sc. D., both of the Medical Department of the University of Pennsylvania, and published by W. B. Saunders & Co., has recently been brought out and, in the language of the authors, we believe that little has been omitted that is of practical value. The opening chapters on examination of the patient are full and clear in every detail, and are voluminously illustrated with cuts and diagrams that are most helpful. The chapter on anatomic considerations is one of the best that we have seen in that it describes most accurately the outlines and landmarks of the various organs of the chest, which most authors take for granted, is already known by the reader. The description of the electrocardiograph and its use in making the diagnosis of heart lesions is one of the best of its kind published. The value of electrocardiography is being recognized more and more as time goes on. We feel that this book leaves little to be added on the subjects treated for some time to come.

—J. P. K.

ABSTRACTS OF CURRENT LITERATURE

DERMATOLOGY

By E. E. Brown, M.D.
Doctors Building, Nashville

Ringworm of the Scalp Treated With Thallium Acetate.

Rosenberg reviews (Illinois Medical Journal, November, 1930) his experience with thallium acetate in the treatment of ringworm of the scalp in children. He employs eight milligrams per kilogram per body weight, and this quantity is given by mouth in a single dose. The hair of the scalp falls out in fourteen to sixteen days, and he has never seen any reason to believe that in this dosage the drug is poisonous. After epilation was complete ointments were effective, and cure was rapidly completed. He believes that thallium acetate is a valuable drug in the treatment of ringworm of the scalp, and its toxic qualities can be escaped by strict adherence to proper dosage.

Verruca Plantaris, By J. N. Sisk, Radiology, November, 1930.

Sisk has made a study of fifty-three cases successfully treated by the roentgen ray. Three of the patients had had three treatments with electrodesiccation three months previous to roentgen treatment; they complained of pain with electrodesiccation and the result was unsuccessful. One patient had had one radium treatment of an hour's duration, without noticeable results. The surgical treatment has been observed in three cases; the result was satisfactory, but the convalescent period was long and was associated with considerable pain and some disability. With the exception of two cases, pain was relieved after the fourth day following the first roentgen treatment and the convalescent period was about four weeks; the longest period was seven weeks, at which time all evidence of the growth had disappeared. The technic is a dose twice the time required to produce a mild erythema on the flexor surfaces, with unfiltered radiation limited to the bounds of the lesion, followed, if required, in three weeks by a dose of one and one-half erythema intensity. In only two cases was it necessary to give further irradiation—the greatest number of treatments was five in a single case. In none of the cases was there a period of disability. Many of the patients mentioned that the sites treated were slightly tender to pressure for a day or two, several days after the first treatment.

OPTHALMOLOGY

By Robert J. Warner, M.D.
Doctors Building, Nashville

The Drainage of the Intra-Ocular Fluids, W. S. Duke-Elder. Brit. J. Ophthalmology, December, 1930.

This is a critical consideration of the paper by Ridley (Brit. J. Exper. Path. 11:217, 1930) in which, according to the author, Ridley concludes that the greater part of the drainage of the aqueous humor occurs not through the canal of Schlemm, but through the cornea into the conjunctival sac.

To Ridley's conclusion that "since minute particles such as those of india ink do not pass into the lumen of the canal from the anterior chamber (Nuel and Benoit, 1895), there is evidence that no such direct communication between the anterior chamber and the canal exists," the author replies that this can have no possible relation to the passage of the fluid, and since Ridley has failed to show that particular matter is delivered out of the eye through the cornea, this argument therefore denies his main thesis.

Against the experiments on which the theory of drainage through the cornea is based, he brings forward one which he considers conclusive. A needle connected to a reservoir is inserted into the anterior chamber of an anesthetized dog. The system is filled with methylene blue (methylthionine chloride, U. S. P.) and the pressure equilibrated by means of an air-bubble. The reservoir is raised, giving a pressure head of from 1 to 2 mm. of mercury; colored fluid slowly flows into the anterior chamber; in one and a half minutes the episcleral veins are deeply dyed; there is no evidence of any coloration of the cornea nor the minutest evidence of dye in the conjunctival sac. Admittedly, the circulation here is an artificially induced pressure circulation, but the available channels of exit are obviously via the canal of Schlemm and the episcleral veins and not by way of the cornea.

To the conclusion reached by Ridley that the conditions of experimentation employed by the author are unsatisfactory because in the chemical analysis pooled samples of aqueous humor and serum were employed, the reply is that this rough estimate of which it was stated "that it cannot lay claim to quantitative accuracy" was followed by a micro-analysis of the principal constituents of each class of substance of which accurate chemical estimation in quantities so minute is possible, and that these showed the same relationship.

ORTHOPEDIC SURGERY

By Robert F. Patterson, M.D.
Acuff Building, Knoxville

The Modified Loop Operation for the Relief of Paralytic Equino Valgus, by Armitage Whitman, Journal Bone and Joint Surgery, January, 1931.

This operation is applicable only to those cases which have paralyzed tibealis anticus and posticus muscles, or the anticus alone. The unapposed action of the peroneii aided by the outward displacement of the extensors produces a valgus deformity. Two types of operation have been previously used; namely, the various forms of arthrodesis, which do not prevent lateral displacement in relaxed ankle joints, and the loop operations of Dr. Royal Whitman which is complicated, tedious and sometimes results in the opposite deformity of the Talipes Varus. This operation combines the desirable features of both types.

Through a lateral incision the apposing surfaces of the os calcis and astragalus are removed in such a way as to bring the oscalcis into vertical alignment with the tibea. The cartilage is removed from the astragalo scaphoid joint and the wound is closed. An anterior incision is then made from two inches above the annular ligament to the insertion of the tibealis anticus. This tendon is divided at its junction with the muscular belly and drawn out of its sheath and is carried beneath the extensors and buried in the tibea joint above the epithyseal line. The peroneus brevis is previously divided and is united to the adjacent tendon. The wound is closed and the foot is placed in a cast in the corrected position. This is changed in three weeks and a walking plaster is applied and worn for ten weeks.

OTOLOGY, LARYNGOLOGY, RHINOLOGY

By W. G. Kennon, M.D.
Doctors' Building, Nashville

Relation of Infection of the Ear and Infection of Intestinal Tract in Infants, by D. E. S. Wishart, M. B., Toronto. The Journal of the American Medical Association, October 11, 1930.

This paper attempts to answer the question: Is infection of the mastoid the cause of acute intestinal intoxication in infants? This question has been intensively studied during the past five years by pediatricians and otologists in Canada and the United States. Those who have studied this problem are divided into widely divergent camps: Those believing that infection in the mastoid is the cause of this disease and those who believe it is not.

An intense form of gastro-intestinal disease affecting infants under two years of age, occurring, apparently, in epidemics and exceedingly fatal in its effects, is known under several titles, of which acute intestinal intoxication, acute infectious intoxication and cholera infantum are most used.

The disease has been intensively investigated for the past five years at the Hospital for Sick Children, Toronto.

Acute intestinal intoxication is a distinct clinical entity, characterized by three cardinal symptoms; diarrhea, followed by vomiting and drowsiness. The vomiting occurs from two to ten times daily. The stools (five to ten daily) are loose and watery, and sometimes contains mucus, but not pus and blood. The degree of drowsiness varies, even in the same infant. When aroused the infant has a shrill, piercing cry, although in severe cases the cry may be only a weak moan. The temperature rarely exceeds 102-103 F. The skin is ashen gray, the eyes are sunken, the hands and feet are cold and clammy and either cyanotic or gray in color. Dehydration is always present. The liver is usually enlarged. In many instances infections of the upper respiratory tract, including ears and mastoids, are encountered. The mortality in severe cases is very high, being well over 50%. This is irrespective of the previous nutrition of the infant.

No consistent pathologic changes have been recorded. In recent years many theories have been advanced as to the etiology of this disease, such as: (1) Production of some toxic decomposition product from the food; (2) Improper foods; (3) Infection of the intestinal wall with bacteria, or (4) Abnormal absorption of catabolites from the bowel. Numerous bacteriological researches have failed to reveal a pathognomonic organism.

A more recent theory has, however, thrown suspicion on the mastoid antrum as the etiologic factor. Study of the literature shows that a number of facts have been observed, a number of assertions made, and certain deductions drawn regarding the connection between infections of the mastoid antrum and this disease.

The argument has been developed much as follows:

1. At autopsy on infants dying with this disease (a) no evidence of gastro-enteritis has been discovered, (b) accumulations have been found in the ear cavities, (c) cultures from these accumulations have yielded organisms.

2. During the course of the disease: (d) Otitis media has been observed, (e) if not observed, the presence of infection has been established by incision of the membrana tympani, (f) or, if necessary, by mastoid antrotomy, (g) mastoiditis, obvious or latent, could be inferred, (h) a simple mastoidectomy, or antrotomy would demonstrate the presence of antrum infection, and afford the patient a greater opportunity for recovery.

3. Hence, it has been argued that the infection found in the mastoid antrum: (i) was the cause of vomiting, diarrhea and drowsiness, (j) was the cause of the acute intestinal intoxication.

Methods of Investigation.

The term infant designates a child twenty-four months of age or less. The facts and figures used are drawn from an elaborate study of all pertinent records for five consecutive years, 1925 to 1929, at the Hospital for Sick Children, Toronto.

The statistics and conclusions have the consideration and approval of the physician-in-chief, and his research department, and the pathologist and his department.

The relationship of infection of the paranasal sinuses is not considered in this report. During the period when acute intestinal intoxication was epidemic, every infant exhibiting, on admission, the three cardinal symptoms of this disease was at once examined by a constant group of observers. The observations and conclusions of each were dictated on the spot to a stenographer. The ears, nose and throat were minutely examined. Swabs for culture were taken from the nose, naso-pharynx, ears and throat with rigid care against contamination, similar examinations were repeatedly made.

In all autopsies of patients twenty-four months of age and under, in which the head was examined, 324 in number, 199 showed both mastoids healthy, 49 showed the mastoid of one side contained fluid and 75 showed material in both mastoids. Analyses of records of patients with this disease in the first three years of this investigation are not given on account of there being so many errors and omissions that the staff have been unable to agree on the conclusions, but in 1928 and 1929 two long series of cases were studied so carefully that there is unanimity regarding the figures quoted.

In 1928, 41 cases were classified as acute intestinal intoxication; 20 of the 41 died. Autopsies on the head were performed on five; all five showed evidence of intestinal infection. In two slight pathologic change was found in the mastoid antrum or its immediate periphery only; there was no involvement of the greater part of the mastoid; pure cultures of hemolytic streptococcus and B. Hoffmannii were obtained. In three there was no mastoid infection.

In 1929, 127 cases were diagnosed, 56 died, autopsies on 15. In all evidence of intestinal infection was found. Of six cadavers showing mastoid involvement two showed minute changes in one mastoid only, four had considerable purulent material in both mastoid antra. Nine showed no mastoid involvement. The incidence of hemolytic streptococci in the upper respiratory tract of the two series showed considerable similarity. There was no correspondence between the bacteriology of the infection in the upper respiratory and the intestinal tract. Serum agglutination tests are yet incomplete for the 1929 series. The evidence that the infection is primarily intestinal seems to have a firmer basis. About one-third of serums have given marked agglutination with B dysenteriae Sonne, while other serums have yielded suggestive results with other bacterial species.

Initial symptom. Only 22 of 168 cases gave a cold as the initial symptom, though the specific question, "Did the present illness begin with a cold?" was asked in every case. One hundred and eleven out of 168 cases had no demonstrable ear, nose or throat infection, 63 had no ear infection, and 130 had no nasal infection during their stay in the hospital. Of 20 infants coming to autopsy, none had no infection in either ear and 12 had no infection in either mastoid, two infants developed clinical mastoiditis during their stay in the hospital. It is, therefore, reasonable to assume that ear or mastoid infection could not be the cause of acute intestinal intoxication. In making observations it was remarkable how shortly before death the ear drums, which had up to then maintained their normal luster, would change to a grayish color with complete loss of luster and a very slight fullness would appear in the posterior superior quadrant rarely obscuring the malleus. The two ears were usually the same. Sometimes incision released a drop of cloudy material that occasionally produced an organism on culture. Baccillus coli was found in the ears of five infants of the 1928 series. When the culture in such cases are positive, however, there is no evidence in the tissues of reaction to infection. The peculiar appearance of the drum head is but a part of the general anhydraemic picture. Several times the pathologist has described stomach contents in the naso-pharynx and the same material in the eustachian tubes and middle ears, and on one occasion he demonstrated bile in the middle ears. This middle ear condition is usually bilateral.

The opinion is that these changes are antemortem phenomena due to forcible ejection by sneezing, crying, coughing or vomiting of pharyngeal contents up eustachian tubes which have lost their resilience.

Mastoid infection, when it exists, is the result and not the cause of the child's lowered condition.

In spite of care, it is widely admitted that a large majority of infants sick in an infant ward for any length of time develop an otitis media in one or both ears.

In 105 (62%) of the 168 cases of acute intestinal intoxication, one or both ears became infected during their stay in the hospital. In 47 (64%) of 73 control cases one or both ears became infected. The statement that all patients presenting the picture of acute intestinal intoxication have mastoiditis, para-nasal sinusitis, or both, as the underlying cause of their illness does not agree with the author's experience. In 111 of the 168 cases with the typical picture of this disease in severe form there was no demonstrable upper respiratory infection. Thirteen patients were submitted to operation of mastoid antrotomy on both sides. These were severely toxic and presented no clinical evidence of mastoiditis. Every care was taken in the technique. A few operations were done under a general anaesthesia, but the majority under a local anaesthesia. It was felt that in no case was death hastened by the operation. Cloudy material was found in the mastoid antrums of 9 of the 13 infants. Eventually, however, only one of these patients recovered. This is thought to constitute considerable evidence in favor of the view that mastoid infection was not the cause of the toxaemia. The united view of the staff of this hospital is that none of the mastoids, or mastoid antra, showed the picture of bone cell reaction to infection which we customarily see in acute mastoiditis. Pus we admit, swelling and infiltration of the mucosa we admit, also some cloudy material in a few small cells at the periphery of the antrum. But not typical mastoiditis. There was so little local trouble in our cases that we do not believe that such slight latent trouble trapped in the antrum could account for the profound general symptoms. Operation is indicated if an infant has typical mastoiditis; but operation is not necessarily urgent. The average infant suffering with acute intestinal toxaemia is close to death and operation is to be avoided if possible.

Histories of 133 consecutive cases of infants who had operations for mastoiditis were studied in regard to whether there was diarrhea, vomiting or loss of weight. One or more of these symptoms was noted in only 18 of these patients.

In view of the facts observed by the staff of this hospital who have intensively studied this disease during the years of 1928-1929, which are:

1. The onset of the disease is rarely characterized by a cold.
2. The great majority of infants suffering with this disease show no evidence of upper respiratory infection at the time they are toxic.
3. Many infants remained free of ear infection throughout the course of the disease.
4. The accumulations in the mastoid antra found at autopsy were ante-mortem in origin.
5. Bilateral mastoid antrum drainage as a cure for the disease was a failure.
6. Autopsies on intensively studied cases showed that mastoid infection was not common.
7. The bacteriology of the upper respiratory and intestinal tract did not correspond.
8. Evidence is being accumulated that the disease is of intestinal origin.

The conclusion is reached that: Infection of the mastoid antrum is not the cause of acute intestinal intoxication in infants.

PEDIATRICS

By John M. Lee, M.D.
Doctors Building, Nashville

The Relation of Tonsils and Adenoids to Infections in Children, Albert D. Kaiser, M. D., Amer. Jour. Dis. Children, March, 1931.

The tonsils and adenoids were removed in 2,200 children between the ages of 4 and 7 years. The incidence of infections in this group before operation and during the ten years after operation was recorded. This data was compared to similar records of another group of 2,200 children who were advised to have the operation but refused. From this study the author concludes as follows:

The removal of tonsils and adenoids influences favorably the incidence of the following infections:

(1) Colds in the head: These occur in 22 per cent of the tonsillectomized children and in 31 per cent of those used as controls.

(2) Sore throats: These occurred in 10 per cent of the tonsillectomized children and in 35 per cent of those used as controls.

(3) Cervical adenitis: This condition occurred in 7 per cent of the tonsillectomized children and in 14 per cent of those used as controls.

(4) Otitis media: This condition occurred somewhat less frequently in children operated on. In these children, over a period of ten years, there was a decreased incidence of 10 per cent, while in the children used as controls there was a decrease of 6 per cent over the same period.

(5) Rheumatic disease: The first attack of rheumatic fever and rheumatic heart disease occurred 33 per cent less commonly in tonsillectomized children. Chorea and recurrent attacks of rheumatic fever were not influenced by removal of the tonsils.

(6) Diphtheria: This disease occurred in 1.3 per cent of the tonsillectomized children and in 1.9 per cent of those used as controls.

(7) Scarlet fever: This disease occurred in 3.3 per cent of the tonsillectomized children and in 4.6 per cent of those used as controls.

(8) Nephritis: This condition occurred only one-third as often in the children whose tonsils had been removed.

(9) Dental infections: Such infections occurred only half as often in the children whose tonsils and adenoids had been removed.

The following infections were influenced favorably to a slight degree or not at all:

(1) Chorea: This condition occurred somewhat more frequently in the children whose tonsils and adenoids had been removed, but the cases of chorea developing in tonsillectomized children showed a lower incidence of carditis.

(2) Measles: This infection occurred with equal frequency whether the tonsils had or had not been removed.

(3) Laryngitis: This condition developed in 5 per cent of the children in both groups over a ten-year period.

(4) Tuberculosis: This condition occurred with equal frequency, as judged by the tuberculin test in both groups of children.

(5) Malnutrition: Malnutrition occurred in nearly as many children whose tonsils and adenoids had been removed as in those who had not undergone operation.

The removal of the tonsils and adenoids influenced unfavorably the incidence of the following infections:

(1) Bronchitis: This condition occurred somewhat more frequently in the children whose tonsils had been removed.

(2) Pneumonia: This disease occurred more frequently in the children whose tonsils and adenoids had been removed.

(3) Sinusitis: First attacks of sinusitis occurred somewhat more often in the children whose tonsils and adenoids had been removed.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,
and F. K. Garvey, M.D.
Medical Building, Knoxville

Bismarsen in the Treatment of Syphilis and of Other Spirochetic Infections, John A. Kolmer, Archives of Dermatology and Syphilology, March, 1930.

This is a compound of bismuth, 25%, and arsenic, 15%, which was synthesized by Raiziss in 1925. Bismarsen is especially valuable in that the administration is into the muscle, and because of the almost complete absence of pain. It is also tissue soluble. It is especially valuable in the treatment of children where intravenous medication is difficult. Toxic reactions are almost unknown. It is absorbed more slowly and for that reason is probably more powerful in inciting tissue reaction and antibodies.

Kolmer thinks that subacute and chronic syphilis is best treated by intra-muscular injection and considers bismarsen the drug of choice in that the spirochaete is attacked simultaneously by a combination of drugs. Absorption of bismarsen is relatively rapid as shown by Roentgenograms, and also by the fact that quite often patients will comment on an ethereal taste in a minute or two after its administration. Films taken 16 to 24 hours after injections show complete disappearance of shadows. Sections of muscle show no deposition of bismarsen because of its tissue soluble properties. Microscopic examinations of kidneys, heart, liver, spleen, suprarenal, and brain of rabbits, rats and guinea pigs receiving from 6 to 18 injections (.003 gms. per kilo of body weight) show but slight or no tissue change. Toxic doses (10 times the usual adult dose) show a predilection for kidneys and liver. Bismarsen was used (experimentally) in the veins of rabbits and caused profound change in kidney and liver. However, it does not cause hemolysis or agglutination of erythrocytes.

Local reactions are mild and he has had no abscess in 800 injections. Pain is considerably less than that of mercury. Constitutional reactions are rare. Two patients developed hepatitis with jaundice, 3 developed pruritus. None developed dermatitis. He states, however, that bismarsen should be given cautiously to anyone who has had arsenical dermatitis or jaundice. Two patients developed tingling, two developed mild nitrotoid reactions. No severe gastro-intestinal reactions have been present. Gingivitis was not encountered. Albumen and casts are rarely produced.

Bismarsen causes less rapid disappearance of spirochaetes than do the arsenicals given in the vein. Comparative time of these is given.

His experience in the treatment of acute, secondary and chronic syphilis by the drug is tabulated. Bismarsen is also of value in the treatment of Vincent's angina and pulmonary spirochetosis.

The dose of bismarsen is .2 gm. at 4 or 5-day intervals. This is especially valuable: (a) avoiding Herxheimer reactions, (b) it exerts greater spirochetical effects than either mercury or bismuth compounds, (c) to test the tolerance of patients for arsenic, (d) tonic effects.

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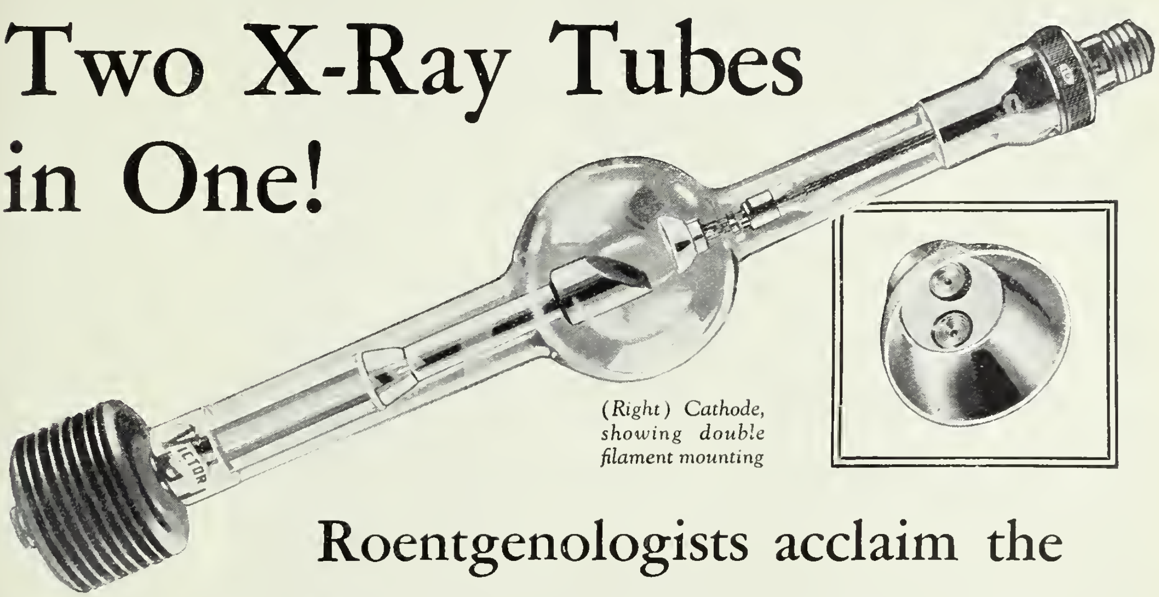

(*Right*) *Cathode, showing double filament mounting*

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SOME PROBLEMS OF ORGANIZED MEDICINE*

By J. B. McELROY, B.S., M.D., F.A.C.P., Memphis

LET me again express my sincere appreciation of the distinguished honor which you have conferred in electing me to the presidency of this Association.

Organized medicine in the United States was conceived in the foundation of the American Medical Association in 1846. There was a long period of gestation—fifty-five years—before real organized medicine could be said to have come into being-viz.: at the reorganization of the American Medical Association at the St. Paul meeting in 1901.

One of the chief activities in its earlier period was the development of a code of ethics.

MEDICAL ETHICS

It has been said that in the historical development of medical ethics two paths of progression are to be noted. The first is concerned with regulations imposed from the outside and usually by civil authority, and second with regulation of physicians by the physicians themselves.

The more truly ethical aspect of medicine was established by the Greeks during the period of Athenian ascendancy. It is worthy to note that these people found it unnecessary, so far as we know, to make any laws regulating the practice of medicine, for this was done for them by their own physicians in the famous oath of Hippocrates. This formed the ethical standard of the medical profession for centuries. Greek medicine was replaced by Roman and this, in turn, absorbed by Byzantine and Hebrew culture. For centuries dogma replaced observation and inductive reason, sectarianism and quackery flourished, but the idealism of the Greeks was preserved by such men as Moses Maimonides, a cultured Jewish physician in Spain in the twelfth century. May I not quote the prayer of this Jewish-Arabian physician, which is worthy to be made our own today.

"Inspire me with love for my art and for thy creatures. Do not allow thirst for renown and admiration to interfere with my profession, for these are enemies of truth and of love for mankind, and they lead astray in the great task of attending to the welfare of thy creatures. Preserve the strength of my body and soul, that they be ever ready to cheerfully help and comfort rich and poor, good and bad, enemy as well as friend. In the sufferer let me see only the human being.

"Illumine my mind that it may comprehend what is absent or hidden. Let it not fail to see what is visible, but do not permit it to arrogate to itself the power to see what cannot be seen, for delicate and indefinite are the bounds of the great art of caring for the lives and health of thy creatures.

"Let me never be absent-minded. May no strange thoughts divert my attention at the bedside of the sick, or distract my mind in its thoughtful deliberations, required to preserve the lives and health of thy creatures.

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*Presidential Address. Read before the Tennessee State Medical Association, April 14, 15, 16, Knoxville, Tenn.

"Grant that my patients have confidence in me and my art, and follow my directions and my counsel. Remove from their midst all charlatans and the whole host of officious relatives and know-all nurses, cruel people who arrogantly frustrate the wisest purpose of our art and often lead thy creatures to death. Should wiser than I wish to improve and instruct me, let my soul gratefully follow their guidance, for vast is the extent of our art. Should conceited fools, however, censure me, then let love for my profession steel me against them, so that I may remain steadfast without regard for age, for reputation, for honor, because surrender would bring thy creatures sickness and death.

"Imbue my soul with gentleness and calmness, when older colleagues, proud of their age, wish to displace me or scorn me, for they know things of which I am ignorant, but let not their arrogance give me pain. For they are old and old age is not master of the passions.

"Let me be content in everything, except in the great art of my profession. Never allow the thought to arise in me that I have attained sufficient knowledge, but vouchsafe to me the strength, the leisure and the ambition ever to extend my knowledge, for art is great, but the mind of man is even expanding."

Almost two centuries later Guy de Chauliac, the most distinguished authority on surgery in the fourteenth and fifteenth centuries, writes: ,'Let the surgeon be well educated, skillful, ready and courteous. Let him hold to those things which are safe, fearful of those that are dangerous, avoiding all evil methods and practices. Let him be tender with the sick, honorable to members of his profession, wise in his predictions; chaste, sober, pitiful and merciful; not covetous, but rather let him take his wages in moderation, according to his work and the issues of the disease and his own work."

In the eighteenth century men were profoundly impressed with the significance of law and order in nature and this deeply influenced all thought. It was the time of systems and theories. It was thought that all kinds of abstractions could be reduced to a system of rules. In England there were groups of practitioners of medicine, physicians, surgeons and apothecaries. There was quite an elaborate system of etiquette and courtesy between these groups, which frequently led to friction and rivalry. The physician had the best social standing and was supposed to have the best training and cultural background. The surgeons were practical men who were engaged in advancing their specialty to a respectable footing. The apothecaries were physicians to the poor and for the rural districts. In 1789 an epidemic of typhus and typhoid fever taxed the capacity of the Manchester Infirmary, and the trustees decided to double the attending staff. The surgeons and physicians already on the staff took this as a reflection upon their work and resigned.

There lived in Manchester at the time a physician who had set under the teachers of Morgan, Shippen and Rush, in Edinburgh, who had graduated from Leyden, who had written philosophical essays, who had done distinguished work in public health, establishing a private dispensary service for the poor, who numbered among his friends Voltaire, Franklin, Diderot, who was in close touch with such leaders as John Hunter, Heberden and Haygarth, and who was highly respected for his personal charm and character. In the confusion attending the change of staff, there was much friction and the trustees asked Thomas Percival to draw up a scheme of professional conduct relative to hospitals and charitable institutions. This led to the publication of Percival's Code of Ethics, in 1803, which has been the model of all codes formulated since that time. This code dealt with professional conduct in private or general practice; with conduct of physicians to apothecaries, and with professional duties which require a knowledge of law.

In this code, as in all subsequent codes, based upon it, there was a mixture of idealism which stresses the interest of humanity as a whole, and hedonism which emphasizes the interest of the individual.

This was a change from the reliance of the medical profession in the handling of the ehtical problems on the basis of good taste and personal honor.

With the rapid expansion of our own country in the early decades of the nineteenth century, many were attracted to the profession by the public demand for medical services. Facilities for adequate training were slow to develop and the morale of the profession fell. Dr. Samuel Brown, of Lexington, Ky., thought he could solve the difficulty by organizing a secret fraternity (The K. L. Society of Esculapius), and by developing within high moral ideas. These were based on Percival's Code, a compilation of which was published in 1819. Later the society came to grief through the gross hedonism which developed. Impelled by the same motives of improving the standards of professional training and morality, Dr. Nathan Davis succeeded in organizing the American Medical Association in 1846. Almost its first business was the formulation and publication of a code of ethics (1847), which was clearly acknowledged to be based upon Percival's Code. With the improvement and training of homeopathic physicians there developed difficulties during the 80s with regard to consultations between these practitioners and the regulars. This led to great trouble in New York State and actually disrupted the New York State Medical Society. The more enlightened members of the regular profession (such as Abram Jacobi) realized that the rules on consultation in the code were too strict, but it was impossible to bring about a change. The situation finally came to a head at the New Orleans meeting of the A. M. A. in 1903, when a satisfactory Code of Ethics was formulated, which became the principles of ethics of the A. M. A. In 1912 these principles were again revised and it has been found necessary to make amendments and changes nearly every year since. Today we have laid down by organized medicine the duties of the physicians to his patients, to other members of the profession, and to the profession at large, as well as of the profession to the public. The practitioner of medicine, the ultimate unit of organized medicine, in his relation to the state, to organized medicine, to his fellow practitioners, to his patients, to himself and those dependent upon him, will every day have moral questions to decide, which he cannot by the letter of any code, however, elaborate. He must meet these in accordance with the high principles specified in the Hippocratic oath, with the universally recognized ideas exemplified in the Golden Rule; with consideration of the welfare of his patients paramount to his own; with respect for the interest and reputation of his colleagues; by extending his professional aid to the unfortunate poor and needy; by advancing his knowledge in all possible ways in his power; by shunning advertising frank, or concealed, or for self-advancement; by avoiding selfishness and commercialism; by influencing his patients to appreciate their financial responsibilities to their medical advisor; by adjusting his fees to the circumstances of his patient and by making his fees commensurate with the services rendered; by avoiding all questionable or abasing money trades with brother practitioners or with consultants; by endeavoring to spread such ideal and high mode of practice among the physicians with whom he comes in contact; by cooperating by all suitable and just means in extending and advancing the high moral, ethical, professions, and scientific principles as specified in the constitution and by-laws of Organized Medicine.

Organized Medicine has grown into a virile body in the thirty years of its real existence. The record of its achievements in its various departments are matters which each of us, as its members, should be greatly proud. You have but to think of its achievements in the Editorial Department; of the work of the council on medical education and hospitals; its council on pharmacy and chemistry; its judicial council; its council on physical therapy; its bureau of health and public instruction; its bureau of legal medicine and legislation; its chemical laboratories and library; its bureau of investigation; and, finally, its committee on the cost of medical practice to realize the enormous amount of work which it has done and the inestimable benefits which have come from this to its members and to the public.

There has never been a time in its existence when its possibilities are greater than now and when it needs more the intelligent support and cooperation of its component state and county societies, and of the individual membership of each of these constituents. I desire to call attention next to the subject of—

Medical Education

It will not be necessary to trace the early history of Medical Education in the United States. The achievements were remarkable in the light of the deplorable conditions which existed, and which are well known to you. Suffice it to say that the primary purpose of the foundation of the American Medical Association was the improvement of Medical Education in the United States. In 1904 it created a permanent council, whose duty was the improvement of medical education. Through its efforts, assisted chiefly by the Carnegie Foundation, the Association of American Colleges and the Boards of Licensure of the various states, we have the present requirements for medical education; viz: for admission to the study of medicine, the equivalent of two years of college work, including physics, chemistry and biology, and a course of medical studies extending over four years of seven months each, in an accredited medical school. The second report of the commission on Medical Education, published in January, 1928, states: "It is the general consensus of opinion that the general feature of present medical training compare favorably with those in other fields of education, and that very great improvement has occurred . . . efforts have been made to bring and to keep medical education abreast of the enormous growth of knowledge of disease, of methods of diagnosis, treatment and prevention, and of the sciences upon which medicine is dependent. These efforts have resulted in numerous regulations of educational, medical and legal agencies. It is generally agreed that these regulations have been important factors in the marked improvement in medical training and in the elimination of many medical schools of low standards. They have become so detailed and rigid, however, that they hamper rather than assist further improvement and are responsible for some of the present defects in medical training, particularly those relating to over-regulation, over-crowding and rigidity. The opinion is growing that there should be a modification of these regulations to permit reasonable freedom and further growth of medical training along sound educational and scientific lines." So it is with these views in mind that the commission is intelligently investigating the requirements for medical licensure, the medical course, pre-medical education and post-graduate medical education in this and other countries.

As in the advancement and improvement in any field of endeavor, criticisms have not been lacking with respect to the improvement in medical education. It has been suggested that this improvement has diminished the supply of doctors in general and has affected their geographical distribution unfavorable to rural communities. After careful investigation, it has been authoritatively stated that there are more physicians per 100,000 people in the United States than in any other country in the civilized world. While the number of doctors has not been increasing as rapidly as the population, it does not follow necessarily that there is or will be an inadequate supply. Improved transportation, the growth in office practice and many other changes may have more than counterbalanced the decreased ratio of physicians to population. The report of the committee on the cost of medical care, with reference to the medical facilities of the U. S., continues: "The sufficiency of physicians in the United States is affected not only by their number in the country as a whole, but by their geographical distribution. This is decidedly uneven. In 1927 South Carolina and Montana had only 71 physicians per 100,000; California, at the other extreme, had 200." The report further states that various state surveys show clearly that the larger cities are over-supplied with doctors relative to population, whereas smaller towns and rural districts are relatively under-supplied; that comparatively few recent graduates of medical schools are located in the smaller communities—the proportion settling in the larger cities is becoming progressively greater." This is, I think, generally true, but let us consider for a few moments our own state. The urban population in places of 2,500 inhabitants or more, increased from 20 per cent of the total population in 1910 to 26 per cent in 1920. It is estimated that one physician to each 1,000 of population affords adequate medical service, under average conditions of wealth and transportation and that if the ratio is greater than 125 per 100,000, a surplus of doctors may generally be assumed. In Tennessee in 1929 there were 127 doctors per 100,000 of population. Dr. Hyman, of the Medical College of the University of Tennessee, has been studying this question with reference to Tennessee since 1923. In 1923 there was a surplus of doctors in the prosperous farming areas of the state, which included 28 counties. Eleven of these were in Western Tennessee, along the Mississippi and Tennessee rivers. Eight were in Middle Tennessee, along the Cumberland River, and seven were in East Tennessee, along the Tennessee River, and its larger tributaries. In other words, the prosperous farming sections had enough doctors and some to spare. The urban counties—Shelby, Davidson, Hamilton and Knox—were included in these areas.

In 1923 there was no shortage of physicians in Western Tennessee, except in Fayette County. In Middle Tennessee there was a shortage in the upper Cumberland mountain region, including seventeen counties. In Eastern Tennessee there was a shortage in counties of the Smoky Mountain region. Only those mountain counties with extensive successful mining operations showed an adequate supply.

In 1929 Shelby County (Memphis) alone, in West Tennessee, shows a distinct surplus with a doctor for every 452 people. Lauderdale and Obion show a very slight surplus with a physician for 788 and 762 people, respectively. In Middle Tennessee, Davidson County (Nashville) alone shows a surplus. In East Tennessee, Hamilton (Chattanooga), Knox (Knoxville) and Washington (Johnson City) show a distinct surplus, with Sullivan (Bristol) barely on the surplus side. In other words, only counties with highly industrialized centers showed a surplus of physicians in 1929.

In this year, 52 counties needed more doctors. Nine counties in West Tennessee, 20 in Middle Tennessee and 20 in East Tennessee show a shortage. The ratio of physicians to population has dropped decidedly in the counties on both sides of the Tennessee River, in West Tennessee, and in all of the Cumberland Mountain and Smoky Mountain counties, except Blount and Carter in the Smokies. The development of mining operations in Blount and the rayon industry in Carter have been accompanied by a substantial increase in physicians.

It is a rather striking fact that Tennessee, as a whole, lost 231 physicians in the period from 1923 to 1926, or over 50 per year, while from the period 1927 to 1929 there was an average annual loss of only eight.

It is further interesting to note that our graduates do not locate in the cities in as large proportions as might be thought. For the last ten years there have been 432 graduates in Medicine from the University of Tennessee. Four of these died before securing a permanent location; 54 are still serving interneships or residences, the remaining 374 have assumed their location as follows: 239 originated or came from small towns or rural communities, of these 167 returned to small towns or rural communities, while 72 located in cities; 135 originated or came from cities, of these 97 located in cities, while 38 moved to small towns or rural communities.

A further interesting feature of these studies shows the migration of physicians. Nine counties were selected to represent a variety of social and economic conditions and distributed in the grand divisions of the state. The total number of physicians in these counties in 1923 was 664; in 1929, 685, so that over 20 per cent of all physicians in the state were included in the study. From

1923 to 1929 the nine counties showed a net gain of 21 doctors. This gain was due entirely to one urban county, which showed a gain of 48. The eight rural counties showed a loss of 27. In the rural counties 25 physicians of established practice moved in and 29 moved out during the period studied. In the urban county 79 physicians moved in and 86 moved out. Included in these numbers are four physicians who entered the state into rural counties, and none who left the state from these counties; and 29 who entered the state into urban counties, while 50 left the state from the urban county. Obviously the migration of physicians already in practice has played a very small part in the distribution, when studied county by county, and has worked somewhat against Tennessee in the State to State shift. The physicians leaving the state all moved out of the urban county, and, in the main, they moved into smaller towns in the southwest. There was a decided movement into the towns, which in nearly all cases were the county seats of the counties studied.

That the congestion of doctors in the cities is not likely to become greater is shown by the intensive study of Memphis from 1923 to 1929. During that period the county showed a gain of 48 doctors. Memphis gained 57, but the remainder of the county showed a loss of nine. The gain in Memphis is made up of 29 additional internes in the hospitals, six additional doctors in the Federal Hospital, six additional physicians giving all of their time to teaching in the University of Tennessee, and only 18 additional in active practice. The migrations of physicians already in practice have not favored Shelby County, as 86 doctors left the county, while only 79 moved in. Of these who entered the county 59 moved from villages and towns to Memphis, while there was a reverse movement of 45 from Memphis to towns and villages. Of the 60 men who moved into Memphis from 1923 to 1927, 46 were able to stick, but one-fourth had to move out again, in spite of the fact that the population of the city has greatly increased. These figures, but it must be remembered that figures, like men and women, differ in the quality of their ancestors, seem to show that our state, as a whole, is amply supplied with doctors. Further, that while there is not likely to occur the feared increase of congestion in the city, and while a good proportion of our medical graduates return to rural communities, there are still many counties in the state which are inadequately supplied.

Another criticism, which also has some justification, is against the length and cost of medical education. The report of the commission on Medical Education already quoted states that the minimal requirements today are approximately those of other civilized countries, in none of which the economic conditions are as satisfactory. It is true, however, that the average age at which graduates are prepared to begin their life work is higher than elsewhere. Other factors, however, than the standards of Medical Education, operate at present to account for this.

We believe that the state should be under deep obligation to Prof. Hyman, who has formulated the Quarter System on the Tennessee Plan, and to the President and Trustees of the University of Tennessee, who have adopted and placed on trial this plan. It has not been in operation one and a half years, and we have every reason to believe that the benefits contemplated of it will be realized. These are:

(1) The medical profession will be stimulated and enriched by recruits with unusual ambition, perseverance and tradition for hard work.

(2) Impoverished communities will receive more nearly an adequate number of physicians with present day requirements of training.

(3) The curriculum will be improved by arranging courses in logical sequence, rather than rotating sections through hospital services, as at present.

(4) Impecunious students would be able to earn the money to pay for their courses. Wealthy students would be able to save as much as one year's time.

MEDICAL SERVICE

Our own Olin West, the Secretary of the A. M. A., has said that the one great outstanding problem before the medical profession today is involved in the delivery of adequate, scientific medical care to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life, and we may add at the same time, assure an adequate return to the physician, dentist, nurse, hospital and other agents concerned.

It is quite evident that there is a growing unrest on the part of the public, because of the inadequacy and high cost of service; and on the part of physicians and other persons engaged in providing medical service due to inadequate facilities and compensation.

Many of the causes for this may perhaps be traced to the changed conditions which have resulted from the evolution of the Art of Medicine to the Science of Medicine, which began in the last quarter of the previous century, with the introduction of the laboratory and specialism. As a result of increased knowledge, industry has learned that there is an annual loss in this country of 350,000,000 working days from sickness; or, as stated on reliable authority, that those gainfully employed in the United States sustain a loss of $1,800,000,000 per year from preventable diseases and postponable deaths. Further, it has been estimated that this loss could be cut to a point where $1,000,000,000 could be left in the pockets of the working population and industries in the country.

Big insurance companies have learned the economic value of large adventures into disease prevention and prolongation of life.

Besides these powerful private economic interests, making for a vast disease prevention program, there is a growing social conviction that the health of the social order is importantly interlocked with the health of its citizens. As President Frank has pointed out, there are today lying about us many, if not most, of the raw materials for a system of State Medicine, or its equivalent in the corporate medical activities of industries, life insurance companies and the like.

In the medical profession there are those who see in these activities an effort to deprive them of the right to make a living, while there are others who see the bloody hand of communism striking to uproot and cast aside the very principles upon which our government is founded.

It is quite evident that great and wise medical statesmanship will be needed to steer us clear of these threatening shoals; so that no more important committee has ever been created by the A. M. A. than the committee on the cost of medical care. Certainly none has ever had so stupendous and difficult task. Time will not permit the review of the important data that this committee has been collecting through a period of three years, but I should like to call your attention to the fact that the time is now approaching for the crystallization of these data, and for recommendations for the solution of this difficult problem, and it behooves us as individual and corporate mem- tion of the salivary ducts and also causes bers of organized medicine to familiarize ourselves with this work and to give it our personal interest.

I think Frank in his address on "The Medical Revolution" gives a splendid summary of what a great doctor should be. May I not quote it? "Aside from the demand of scientific knowledge of disease, and its cure, that the medical profession makes upon the doctor, there are other demands which might well discourage any man from entering practice.

"The great doctor must know almost as much about the social order as the sociologist. This is necessary because the varied forces—political, social, economic, industrial, religious—that march across a nation, making its mind or marring its spirit, register their efforts in the lives of the doctor's patients. The more the doctor knows about these forces that make the atmosphere in which men's minds and bodies live the more intelligently can he trace the effects to their causes and the more wisely can he counsel his patients.

"The great doctor must know almost as

much about mind as the psychologist. This is necessary because even the most materialistic scientist admits that there is a subtle relationship between mind and body that the doctor must not overlook, for when he does overlook this relationship a thousand quacks rush to capitalize his oversight.

"The great doctor must refuse to be party to the ironic paradox of commercializing a profession, just when the professionalization of commerce begins to dawn.

"The great doctor must decline to tear his specialism out of the living texture of the whole medical fabric. He will not allow the noble science of surgery to degenerate into a merely higher carpentry; and, finally, the great doctor must be able to distinguish between Hippocratic ethics and hypocritic etiquette in matters professional."

Balzac recognized the need of almost all of these attributes in giving us the delightful picture of his country doctor, the good Banassis.

I have called your attention to some of the problems of organized medicine—some in the process of solution, others which will always have to be considered to meet changed conditions, in order to impress upon you our responsibility as components of a great organization—State, District, County and individuals.

AFFECTIONS OF THE SALIVARY GLANDS AND THEIR DUCTS*

D. H. Anthony, M.D., Memphis, Tenn.

THIS is not an address, but a practical paper on diseases about which the patients often consult the oto-laryngologist first—namely—affections of the salivary glands and their ducts. I selected this subject because it has never been presented to this section, and because it has not been discussed enough before the other medical meetings that most of us have had the opportunity to attend. Another reason is that most of us have not seen enough of the salivary diseases to be familiar enough with the subject to make an early, accurate diagnosis, and to administer prompt relief treatment to the very acute cases. The few salivary cases that have come under my own observation, and that I have treated, have been some of the most grateful patients I have ever seen.

I believe that a careful study of these diseases of the salivary glands and their ducts will prove to be most interesting to the physician.

Affections of the salivary glands and their ducts may be classified as follows:

1. Congenital Abnormalities of the Salivary Glands and their Ducts.
2. Acute Infection of the Salivary Glands and their Ducts.
3. Acute Epidemic Inflammation of the Salivary Glands (Mumps).
4. Chronic Inflammation of the Salivary Glands and their Ducts.
5. Calculi and Foreign Bodies in the Salivary Glands and their Ducts.
6. Fistula of the Salivary Glands and their Ducts.
7. Tuberculosis of the Salivary Glands.
8. Syphilis of the Salivary Glands.
9. Actinomycosis of the Salivary Glands.
10. Mikulicz's Disease (Pseudohypertrophy).
11. Ranula.
12. Neoplasms of the Salivary Glands.
13. Xerostoma.
14. Ptyalism.

Figure No. 1 shows the dissection of the normal salivary glands and their ducts.

1. Congenital Abnormalities of the Salivary Glands and Their Ducts.

Anomalous development is infrequent, but a sufficient number of cases have been reported to indicate that such anomalies must be borne in mind, as they sometimes are an important factor in the diagnosis. Misplaced or absent salivary glands have been reported. Gruber found both submaxillary glands absent in one case, and in another the parotid gland appeared in the situation of the accessory parotid at the posterior border of the buccal cavity. Turner reports a case in which the submaxillary glands were found on the dorsal surface of the mylohyoid muscle close to the sublingal glands instead of in the digastric triangle. The orifices of Wharton's and Steno's ducts frequently vary. Occasionally there is atresia of these ducts or the

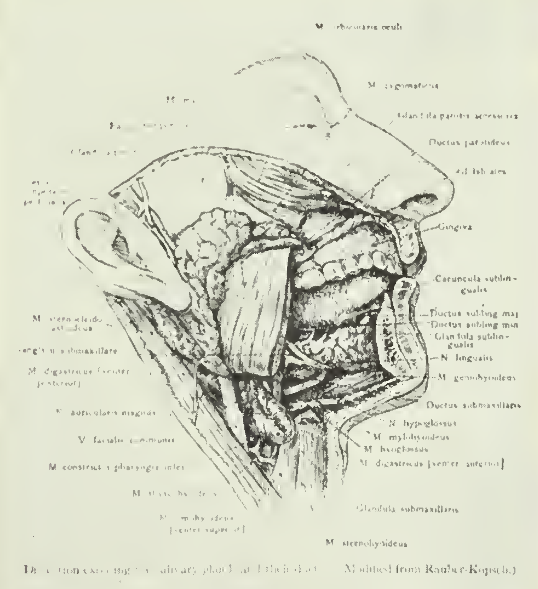

Figure No. 1

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*Chairman's Address of the Eye, Ear, Nose and Throat Section, Tennessee State Medical Meeting, Knoxville, Tenn., April 14, 15, 1931.

openings may be exceedingly small or double instead of single. Case of congenital salivary fistula have been reported by Gherini, Roser and Konig.

Symptoms—The symptoms are usually indicated by alterations in the anatomical appearance. With congenital absence of an opening through the duct, ranula may result; or unusual situations of the orifices may lead to exposure and irritation, thus causing pathological disturbance, displacement, or interference with nerves, blood-vessels, or other structure.

Treatment—In the rare instance when treatment is required the therapeutic and surgical methods necessarily are indicated by the existing symptoms.

II. Acute Infection of the Salivary Glands and Their Ducts.

Acute infection of the salivary glands and their ducts may be caused by irritation of calculi, foreign bodies, continual use of morphine and atrophine, and oral-sepsis which causes partial or complete obstruction of the salivary ducts and also causes dehydration of patient following major operations.

Charlton, in a recent article on post-operative parotitis, says that gastric ulcers, treated with oral starvation, cause acute suppurative parotitis ten and one-half times more often than in cases allowed fluids by mouth. The sublingual and submaxillary glands and ducts are more protected from dryness of the mouth by the tongue, and infection occurs much less than in the parotid.

Infection in the salivary glands, following operations, occurs more often between November and April when the respiratory infections are more prevalent.

Collins reports a series of 11 cases of post-operative acute parotitis following 2,716 major operations. There were 4 deaths and 9 recoveries and 2 cases that were not operated on. The death rate in all types of these cases has been reported to be 42.8 per cent.

Symptoms—The symptoms produced are variable. Sometimes they clearly indicate the cause, as when there is partial or complete obstruction of the duct with swelling of the gland due to saliva obstruction caused by the sight of food or meals. Other times there is continuous, severe pain and tenderness in the region of the salivary glands or their ducts, slight fever and general aching. Oftentimes there is a general dryness of the mouth.

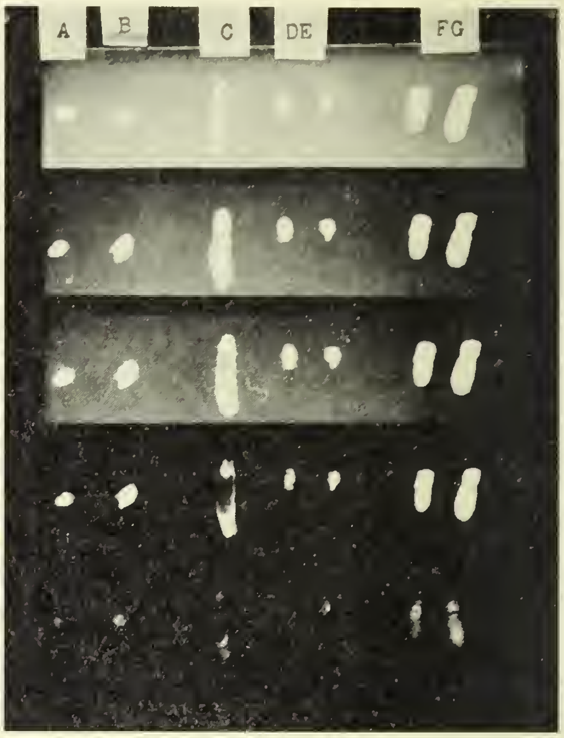


FIGURE NO. 2
Radiograph of 7 Salivary Calculi.

Treatment—The removal of the above causes usually gives the patient drainage and quick relief of the inflammatory symptoms. Especially in the post-operative cases give the patient plenty of fluids. Incise the salivary gland early, if needed.

III. Acute Epidemic Inflammation of the Salivary Glands (*Mumps*).

Acute epidemic inflammation of the salivary glands (mumps) will not be discussed in this paper because it is so well described in all text books on the practice of medicine.

IV. Chronic Inflammation of the Salivary Glands and Their Ducts.

Chronic inflammation of the salivary glands may follow chronic intoxication, uremia, narcotics, lead, Bismuth, or it may follow an acute infection of the salivary glands or their ducts.

Symptoms—The gland or duct is enlarged and more or less tender to the touch. Diminution of salvia from the affected glands or duct is often seen.

Prognosis—The inflammation may terminate in abscess formation if the cause is not removed.

Treatment—Eliminate the source of poison. Oral hygiene should be practiced in all cases. Apply heat externally. Potassium Iodide, internally, has been recommended. If the swelling or inflammation persists surgical drainage may be necessary.

V. Calculi and Foreign Bodies in the Salivary Glands and Their Ducts.

Salivary calculi are relatively uncommon. Harrison from 1825 to 1926, has found only 375 reported cases. To this number he added 27 of his own.

The above small number of salivary calculi cases reported shows that no doubt very few cases that have been diagnosed and treated have been recorded.

Salivary calculi can form in the glands themselves or in their excretory duct, the latter being the more common situation.

Calculi form in the salivary glands and ducts less frequently than in the urinary tract or biliary tract but occur more frequently than pancreatic calculi. The most common location of the salivary calculi is in Wharton's duct with the following approximate percentage:

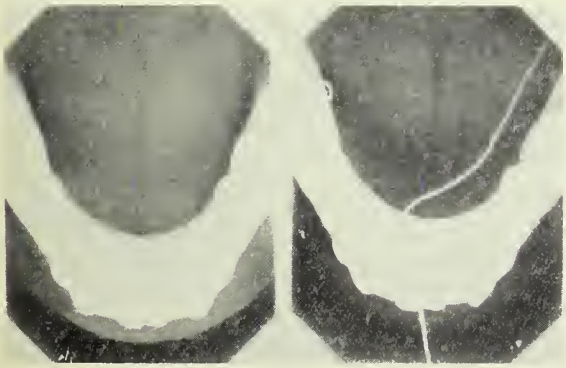


Figure No. 3

Radiograph showing probe in Wharton's duct. Position as in Figure No. 3.

Wharton's duct, submaxillary gland, 61.4%.

Steno's duct, Parotid gland, 20.4%.

Sublingual glands and ducts, 18.2%.

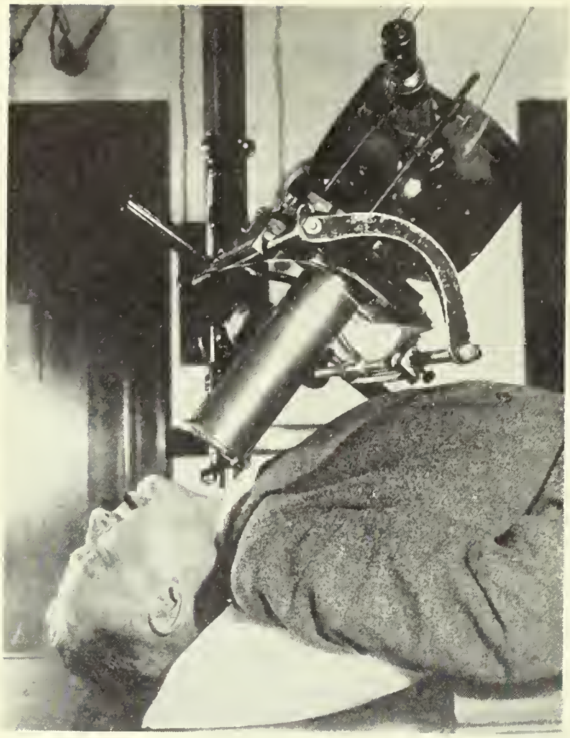
Salivary calculi occur more often in Wharton's duct than in all the other locations combined. It has been reported that the reason for the common location in Wharton's duct is because the saliva in the submaxillary and sublingual gland is thicker because it contains more mucous than the saliva from the parotid gland. They occur more frequently in men in middle age, and rarely occur in children, but have been reported as congenital by Burdel. Usually they occur singularly.

The size of the stones is usually about the size of a pea or smaller. One reported by Peusy reached the dimension ½ by 1 by 1½ inches and weighed 7 6-10 grams. Mullin states that it seems to be a fact that all herbiverous animals are more subject to salivary calculi while carniverous animals are almost free; and he also states a calculus weighing 11½ oz. has been removed from the submaxillary gland of a horse.

Symptoms—A stone in the duct or gland may cause no symptoms for a long time and will not do so until there occurs a partial or complete obstruction to the flow of saliva through the salivary duct or until infection occurs in the region of the calculi which you will notice is brought out in case No. 5. Usually the first symptom the patient complains of is severe pain in the floor of the mouth and in the gland on the same side where the calculus is located, at the sight of food and at meal times.

The cause of the severe pain at this time is due to marked distention in the duct and back pressure in the gland from the increased flow of saliva.

Bachman nand Bliss state that the quantity of saliva secreted during twenty-four hours has been estimated at between 1300 cc. and 1500 cc. The quantity will vary with the character of food, the length of time it is masticated, and the water content of the body.



Photograph illustrating intra-oral film, occlusal position.

EXPOSURES

	Kv.	*Ma.*	*Dist.*	*Time*
Intra-oral film	50	30	20″	5 sec. (no screens)

Pain in the region of Wharton's duct is more severe than in any other location, because the lingual nerve lies close to this duct, and the duct is very inelastic. Often times the swelling and pain in the duct or in the gland does not disappear between meals. When this occurs it indicates that infection has occurred in the region of the calculus in the gland or duct, associated with marked tenderness and slight fever.

Diagnosis—Salivary calculus in the middle or anterior third of Wharton's duct and in Stenson's duct can usually be felt by bidigital examination, with the fingers of one hand inside of the mouth against the duct and the fingers of the other hand on the outside of the mouth. A stone in the posterior third of Wharton's duct is more difficult to palpation. Oftentimes you can probe the duct and feel the grating of the stone with a small probe. I believe that if a calculus is large enough to cause symptoms you can practically always show it with a radiograph as the calculus contains 66 to 71 1/2% calcium.

Dr. Charles H. Heacock suggested making radiograph exposure of seven salivary calculi that I have, which is shown in Figure No. 2. His report is as follows:

SERIALS OF STONES

Kv.	*Ma.*	*Dist.*	*Time*	
50	10	30″	1/5 sec.	(screens)
60	10	30″	1/5 sec.	(screens)
60	20	30″	1/5 sec.	(screens)
60	20	30″	1/4 sec.	(screens)
60	30	30″	1/3 sec.	(screens)

"The fourth exposure in this series is comparable to the exposure used in examination of patients, making allowance for the interposition of tissues. The fifth is an over-exposure in an attempt to obliterate the shadows. The fact that this was unsuccessful demonstrates that the calculi, in this series at least, are very opaque."

This has been done to try to show the type of shadows that is to be expected under different amounts of exposure of x-ray to make the radiograph of the calculi in the patient.

The radiograph should be taken both extra-orally and intra-orally. It not only shows the calculus obstruction but shows the location, which is a helpful aid for operative procedure.

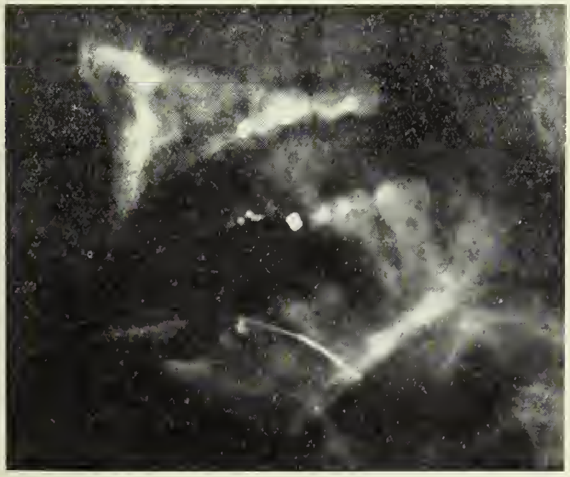
The best adjunct in the diagnosis of salivary calculus is a properly taken radiograph as follows:

A calculus in the anterior two-thirds of Wharton's duct can be easily demonstrated by using an occlusal film, 2¼ by 3 inches, placed horizontally between the teeth as far back in the mouth as possible, with the teeth closed against the film. The rays should be directed upwards from beneath the chin. The head should be extended as far back as possible and the x-ray tube as close to the chest as the patient can stand it without an accident of a spark reaching the patient. (See figure No. 3). The calculus in the posterior third or in the gland itself will best be shown by taking the lateral view (extreme jaw position, see figure No. 4). The anterior two-thirds of the duct cannot be demonstrated well by a lateral picture because the shadow of the mandible will somewhat obscure the duct.

Treatment—When possible the salivary calculus in the ducts should be removed through the mouth. When situated deep in the glands external removal is indicated, the horizontal incision and careful, deep, small catgut sutures, and silk sutures in the skin. Use liquid diet and pressure bandages for about five days to prevent external fistula. Method of internal removal will be described in case No. 6.

Foreign Bodies—Etiology—Both Wharton's and Steno's ducts are occasionally invaded by foreign bodies such as fish bones, toothbrush bristles, splinters of wood from toothpicks, fruit seeds, and other objects sufficiently small to enter the orifice of the ducts; projectiles may sometimes be driven into and lodged within the gland structure.

Symptoms—There may be sharp pain at the moment of entrance, followed by swelling. More general pain continues, and other distressing symptoms are occasioned by occlusion of the duct and interference with normal salivary excretion. The distressing symptoms may disappear and recur from time to time until the foreign body is removed. Sometimes little discomfort is felt until, in the course of time, the foreign body becomes surrounded by deposits of salivary calculus, and in this way leads to the formation of a salivary stone. If the foreign body is not forced out by inflammatory processes or removed, symptoms of chronic inflammation develop with discharge of pus within the gland, and as a result local and general symptoms of serious character may develop.



Radiograph showing probe in Stensen's duct. Position as in Figure No. 4.

Diagnosis—If the object cannot be seen or felt from the surface it may be located by passing a probe into the duct. When this is impracticable, on account of the swelling of acute inflammation, the presence of such a body can best be determined by a radiograph.

Treatment—Remove the foreign body. If superficially situated its extraction is easily accomplished, especially if pressure can be applied to force it out of the duct. When this is impossible, an incision with the long axis to the duct is required for its exposure. Care must be exercised during heeling of the wound to prevent occlusion of the duct. Other treatment must be directed toward relief of inflammation and abscess if such conditions be present.

VI. FISTULA OF THE SALIVARY GLANDS AND THEIR DUCTS.

Fistula of the salivary glands or their ducts is an abnormal opening between the gland and the skin or of the mucous membrane of the mouth. A fistula of the salivary glands or ducts may be congenital or may follow an injury, or infection, or may occur as the result of a surgical operation.

Symptoms—There is a clear discharge which is more copious during meals. A fistula of recent origin usually closes within two to eight weeks without treatment.

Treatment—If healing is delayed the fistula may be cauterized with pure Carbolic Acid. A fistula of long standing will require plastic surgery.

VII. TUBERCULOSIS OF THE SALIVARY GLANDS.

Tuberculosis of the salivary glands is very rare and might be mistaken for tuberculosis of a lymph node, with which it might also be associated. The onset may be sudden or it may be insidious and resemble a chronic inflammatory infection of other origin. The patient may show definite tu-

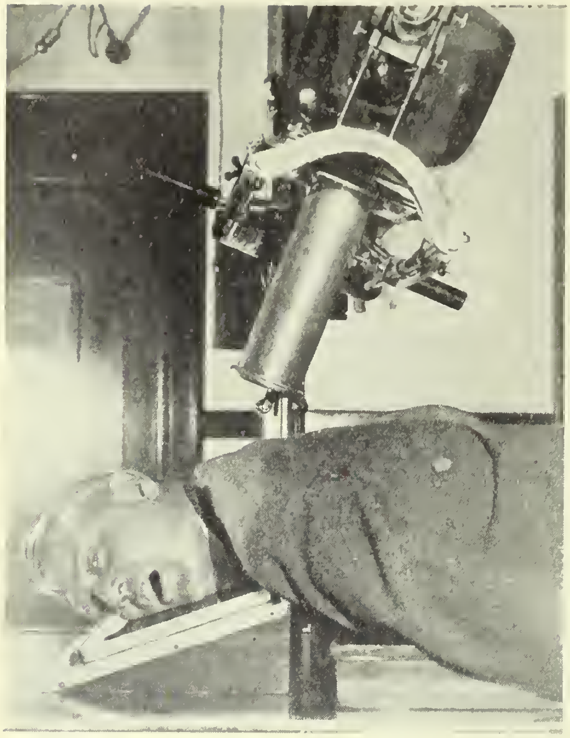


FIGURE No. 4

Photograph illustrating extra-oral film.

EXPOSURES

	Kv.	*Ma.*	*Dist.*	*Time*
Extra-oral film	65	30	30″	.5-.75 sec. (scr'ns)

berculosis symptoms, such as night sweats, rise of temperature in afternoon, loss of weight, and anemia.

Differential diagnosis should include syphilis, chronic inflammatory infection, actinomycosis, and tumors of the salivary gland.

Treatment is incision for drainage or removal of the gland.

VIII. Syphilis of the Salivary Glands.

Syphilis of the salivary glands is very rare, but it may occur as an acute parotitis in the severe types of syphilis, usually when it is in the secondary stage. Syphilis of the salivary glands, however, is usually of the gummatous type in the tertiary stage. It may resemble a chronic pyogenic infection which is a slow, painless swelling, firm to the touch, and not tender. It can be differentiated from malignant tumors only by microscopic examination or by disappearance of the swelling under antisyphilitic treatment, although a positive Wassermann would be suggestive of syphilis.

The treatment would be the same as for other manifestations of syphilis.

IX. Actinomycobis of the Salivary Glands.

Actinomycosis of the salivary glands occurs as a secondary infection from the mouth, gums or tonsils.

Differential diagnosis should include syphilis, tuberculosis, carcinoma, inflammatory cyst, and fibroma.

Treatment—The treatment is largely surgical, requiring incision of abscesses, removal of dead tissue and maintenance of drainage.

Potassium iodide should be given in ascending doses of 15 to 60 grains a day. Other measures recommended are the use of radium and x-ray therapy.

X. Mikulicz's Disease (*Pseudohypertrophy*).

This is a chronic, symmetrical enlargement of the lacrimal and salivary glands, caused by replacement of the glandular tissue by lymph cells. In some cases, the lymph nodes, the palatal glands, Blandin's glands and the labial and buccal glands may be involved. Swelling is the only symptom, and the gland on one side may be involved more than the one on the opposite side. The etiology is not definitely known. The glands may remain swollen or they may subside.

Treatment—Arsenic and Potassium Iodide have been recommended. Partial removal of the gland should be avoided except where such procedure is warranted by marked disfigurement resulting from the enlargement.

XI. Ranula.

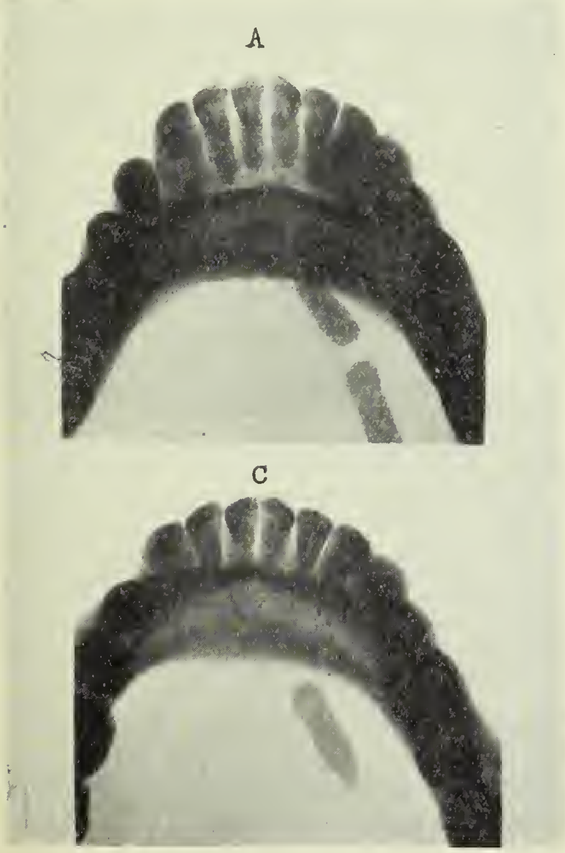
A ranula is a benign cyst which derives its name from its resemblance to a frog's belly. It occurs underneath the mucosa and submucous tissues, and is characterized by burrowing into their deeper structures. The term is very generally and loosely applied to all chronic benign cysts of the floor of the mouth due to an obstruction and dilatation of a duct of a salivary or mucous gland or sublingual gland.

Etiology—There is much difference of opinion regarding the origin of ranula. Blair states that the site of origin of these cysts, which occur in the anterior part of the floor of the mouth, should be limited to the ducts of one of three structures; the incisive glands of Suzanne and Merkel, the sublingual salivary glands, or one of Bochdalik's glands, and that they are not due to obstruction of Wharton's duct, as is often stated.

Treatment—Complete extirpation of the ranula.

XII. NEOPLASMS OF THE SALIVARY GLANDS.

Tumors of the salivary glands are divided into benign, malignant and "mixed" types. Most tumors of the salivary glands occur in the parotid glands. Sarcoma of the parotid gland is comparatively rare. Carcinoma of the parotid gland is more frequent than sarcoma. Diagnosis between carcinoma and "mixed" tumors is very difficult at times. Benign tumors other than "mixed" tumors constitute by far the smallest per cent of salivary tumors.



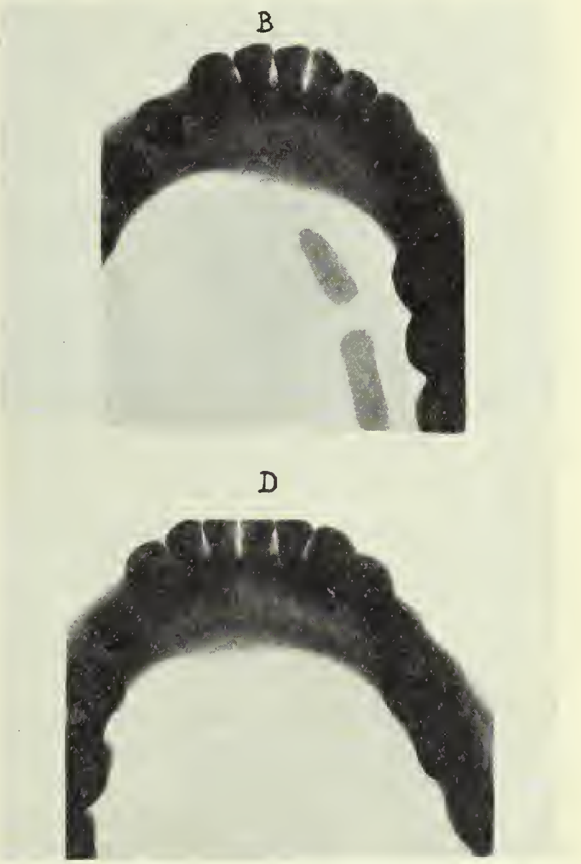


FIGURE NO. 5

(Case No. 5—Mrs. J. T.)

Radiographs showing two salivary calculi in the right anterior and middle third of Wharton's duct.

(A) Wrong position (neck not extended enough).

(B) Correct position (neck extended as much as possible) and before first operation

(C) Twenty hours after first operation (extirpation of anterior calculus) shows the posterior calculus has slipped forward.

(D) No calculus shadows showing.
After extirpation of second calculus.

Treatment—Complete excision of tumor, except tumors located in the parotid gland near the facial nerve; and in the latter a biopsy should be taken and the surgical procedure should be according to the biopsy findings.

XIII. XEROSTOMA.

Xerostoma is a condition characterized by very scanty saliva usually caused by severe diabetes. Dr. Price cites a number of

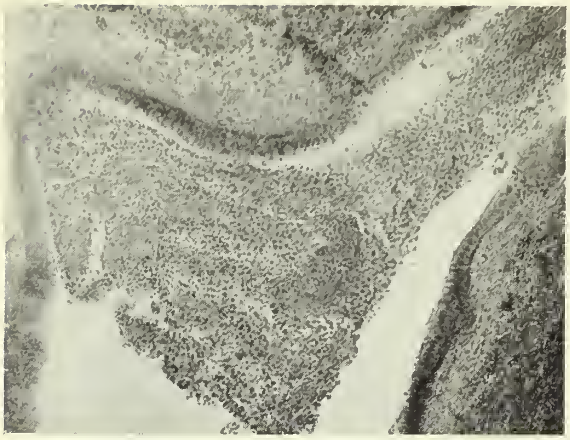


FIGURE NO. 6

(Case No. 9—D. W.)

Chronic inflammation of submaxillary gland following obstruction of mouth of duct by stone. Duct is distended into exudative elements, rich in polymorphs, mononuclears and some red blood cells. (Microphotograph)

cases and reported a cure of a case of a year's duration by removal of dental infection.

Treatment—Dryness of the mouth from diabetes is relieved as soon as the severe diabetic is improved by diet and medication.

XIV. PTYALISM.

Ptyalism is an excessive secretion of the salivary glands often caused by large doses of Pilocarpine, Potassium Iodide, and also caused by all varieties of stomatitis except Thrush, Rabies and functional nervous diseases.

Treatment—Small doses of atropine should be used to check the excessive secretion of saliva until the cause can be removed.

CASE NO. 1

ABSCESS OF THE SUBMAXILLARY GLAND

Mrs. D. L. S., age 46, very poorly nourished white woman, housewife, consulted the Drs. Coors, Leroy, Elcan and Rawls Clinic and was admitted to the Hospital on January 14, 1930, with a diagnosis of Chronic Hypertrophic Endometritis and Endocervicitis with marked anemia. On account of being anemic the patient was given a transfusion of 500 cc. whole blood. On January 14, 1930, urine and blood report was as follows:

Urine Report—Color, straw; appearance, cloudy; reaction, acid; sp. gravity, I. Q.; albumin, positive; sugar, negative; acetone, negative; epithelium cells, few; pus cells, innumerable; blood, few red blood cells; bacteria, few; special, some mucous.

Blood Report—Hemoglobin 65% (Art. light); Erythrocytes per cu. mm, 3,280,000.

On January 15, 1930, blood report as follows:

Leukocytes per cu. mm, 9,200.
Small lymphocytes, 18%.
Large lymphocytes, 5%.
Polynuclear: neutrophiles, 77%.

On January 16, 1930, on account of profuse hemorrhage from the uterus the patient was prepared for operation and was given the following hypodermics:

One-eighth gr. Morphine Sulph. in 2 cc. of 50% Magnesium Sulph. at 6:45 a. m.

One-eighth gr. Morphine Sulph. in 2 cc. of 50% Magnesium Sulph. at 7:15 a. m.

One-eighth gr. Morphine Sulph. in 2 cc. of 50% Magnesium Sulph. at 7:45 a. m. (with 1/150 gr. Atropine Sulphate.)

Dr. Giles Coors performed an operation for appendectomy and pan-hysterectomy at 8:30 a. m.

The patient did very well except for marked weakness which required Digitalis until January 22nd, when the patient began to complain of severe pain in the right side of her neck down to the right arm, also difficulty in swallowing and breathing, necessitating slight elevation of the head and chest to make breathing easier.

I was called in consultation by Dr. Giles Coors on January 22nd and I found the patient very pale and anemic looking and she stated she was having marked pain in the region of the right submaxillary gland with great difficulty in breathing and swallowing.

On examination I found the mouth very dry, with practically no saliva flowing. I found the region of the right submaxillary gland markedly swollen and tender. The region of the right tonsil, uvula, and right side of the epiglottis showed marked edema. I made a diagnosis of abscess of the right submaxillary gland and advised immediate incision and drainage of same which was done by Dr. Coors and myself at 6 p. m., January 22, 1930.

The patient was given 1/4 gr. Morphine Sulphate, hypodermically, thirty minutes before the operation. At 6 p. m. the patient was sent to the operating room. Superficially and deep, the region of the submaxillary gland was infiltrated with 1% Novocain Solution. A T-shaped incision, as advocated by Dr. Mosher to expose the submaxillary gland was infiltrated with 1% the gland and the submaxillary gland was found to contain a profuse amount of thin muco-purulent secretion. A drainage tube was inserted in the wound and a dressing applied. The tubes were irrigated every four hours with Dakin's solution. The patient was given large doses of Saline solution or Glucose solution every few hours for two days.

Twenty-four hours after the operation I saw the patient again and she was breathing better and the swelling in the throat was diminishing.

The patient remained in the hospital and continued to drain thick, purulent secretion from the incision and a large area of necrosis was noticed which seemed to involve the entire submaxillary gland.

The patient steadily improved and began taking liquid nourishment by mouth at the end of forty-eight hours after the operation.

The purulent secretion gradually diminished until the patient left the hospital on February 9, 1930, at which time the wound was draining a slight amount of thin purulent secretion. The wound continued to drain until April 20th, at which time the incision healed and the external dressing was omitted.

On March 6, 1931, I received a letter from the patient stating that she had had no discharge from the wound since April 20, 1930, but she states that at times since she left the hospital she has numbness in the region of the submaxillary gland. The patient stated that she has taken on weight and is feeling well and strong otherwise.

CASE NO. 2 (Author's Case)

ACUTE BILATERAL INFLAMMATION OF BOTH THE SUBMAXILLARY AND SUBLINGUAL GLANDS. ABSCESS SUBLINGUAL GLAND

Mr. R. P. R., well-nourished white man, age 36, occupation engineer, consulted me for the first time on November 14, 1930, complaining of swelling and soreness of both submaxillary and sublingual glands for three days.

I made a diagnosis of mumps and I confined him to bed for one week, at the end of which time I saw him again and his condition was the same.

On examination I found his tonsils medium size and chronically infected, marked pyorrhea, nose clean, transillumination of sinuses clear. Palpation of Wharton's duct was negative.

I advised the patient to remain in bed another week, at the end of which time he reported to me again and I found his condition the same. At that time I gave him 5 cc. of Lactigen, intramuscularly.

On December 3, 1930, the patient was sent to St. Joseph's Hospital on Dr. Battle Malone's service. His urine was reported negative. His blood was reported as follows:

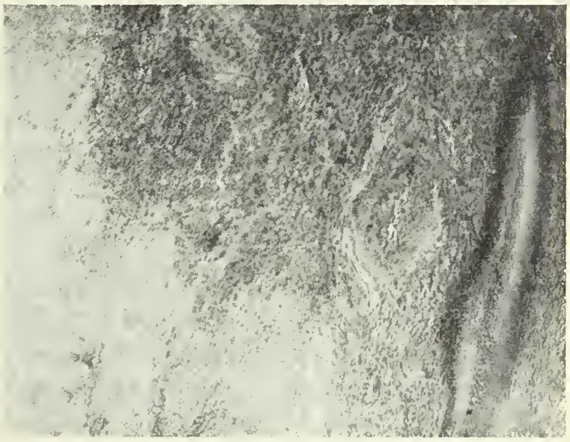


FIGURE NO. 7

(Case No. 9—D. W.)

Same as Figure 5, showing acini, artery, and small duct. The latter contains exudative elements. The surrounding tissues are infiltrated with small mononuclears. (Microphotograph).

Erythrocytes per c. mm., 4,650,000.
Leukocytes per c. mm., 13,800.
Leukocytes, 200.
Small lymphocytes, 317.
Large mononuclears, 5%.
Polynuclear: neutrophiles, 67%.
Eosinophiles, 1%.
Basophiles, 5%.
Serum reaction, Kahn, negative.

On December 4, 1930, a large deep ulcer was found in the region of the frenum of the tongue which involved the region of both the openings of Wharton's duct. Smear and culture was made by Dr. J. A. McIntosh from the ulcer under the tongue and was negative for Vincent's Angina and the culture showed the infection to be Streptococcus. Dr. McIntosh reported from the culture that there was a questionable bacillus tularemia present. Some of his blood was sent to Washington to be examined for tularemia and the blood was reported negative for tularemia infection.

The patient was given autogenous vaccine daily and used saturated solution of Sodium Perborate and Dobell's Solution as a mouth wash. The ulcer under the tongue was painted with Gentian Violet Solution and x-ray treatments of the anterior cervical glands were given to both sides.

Radiograph showed marked pyorrhea of teeth. Salivary glands and their ducts showed negative for salivary calculus.

The patient's temperature fluctuated between normal and 101 3/5 for one week.

Swelling and tenderness in the anterior cervicals, submaxillary and sublingual glands on both sides remained and there was slight septic temperature until December 8th.

On December 8th the patient was operated on by Dr. Battle Malone, who made an incision in the sublingual glands on both sides and found same to contain about 1 dram of pus. The patient's septic temperature improved but did not remain normal until January 23, 1931.

Large granulation tissue developed in the region of the frenum ulcer. The ulcer did not improve under the above antiseptic treatment. Dr. McIntosh applied saturated solution of Magnesium Sulphate to the ulcer twice a day for three weeks.

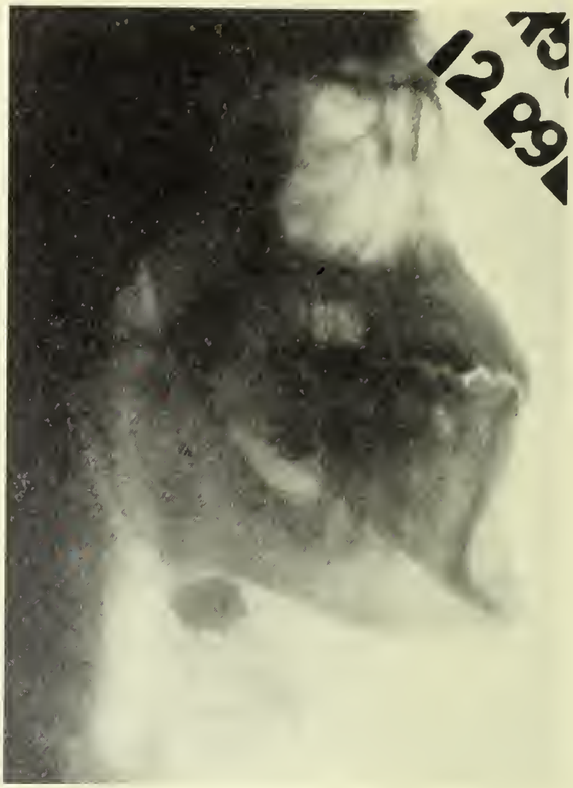


FIGURE NO. 8
(Case No. 11—J.J.)
Radiograph. Lateral exposure, showing large calculus in right submaxillary gland.

The patient left the hospital on February 28, 1931, with the incision healed and with practically no swelling. The granulations under the tongue were rapidly diminishing.

CASE NO. 3 (Author's Case)
ABSCESS PAROTID GLAND

Miss L. C., age 30, thin, delicate woman, consulted me on May 13, 1927, with the following history: swelling in region of the right parotid gland for three days. Patient had no pain and very little tenderness.

On examination I found the right parotid gland was slightly swollen and very tender. Examination of Stensen's duct revealed profuse purulent discharge mixed with the saliva. By bidigital examination I could feel no stone in Stensen's duct.

I saw the patient for three days in succession and on the third day the swelling had practically disappeared and she was feeling comfortable. The patient refused to have a radiograph made because she was over the acute attack.

I did not see the patient again until May 28, 1928, when she came in, stating that she had had swelling in the region of the right parotid gland for one week. The region of the right parotid gland was sore to the touch, but there was no pain.

At this time there was pointing on the inside of the cheek, very far back on the inside and lower border region of the parotid gland. I applied cocaine and made a small incision and found a small amount of pus. I probed the wound but could find no calculus. The patient again would not consent to having a radiograph made.

I saw the patient for two days and did not hear from her again until March 18, 1931, when I telephoned her to ask if she had had any trouble, and she reported she had had no trouble in the region of the right parotid gland since I saw her in May, 1928.

CASE NO. 4 (Author's Case)
ABSCESS OF PAROTID GLAND

Mrs. W. E. C., age 45, white woman, well nourished, housewife, consulted me on November 16, 1925, with the following history: severe pain off and on in the region of the right parotid gland for twelve years, especially on going out in the wind. Four years ago she had had an abscess in the right side of the face and in front of the right ear, associated with swelling in the region of the right parotid gland. Her family physician lanced the region of the right parotid gland and she noticed discharge from the wound for two or three days. For the past four years on an average of once or twice a month there occurred swelling and sharp pains in front of the right ear. Sometimes the pain goes down in ten minutes and sometimes the symptoms last a week. For the last four days the patient had had severe pain in region in front of the right ear.

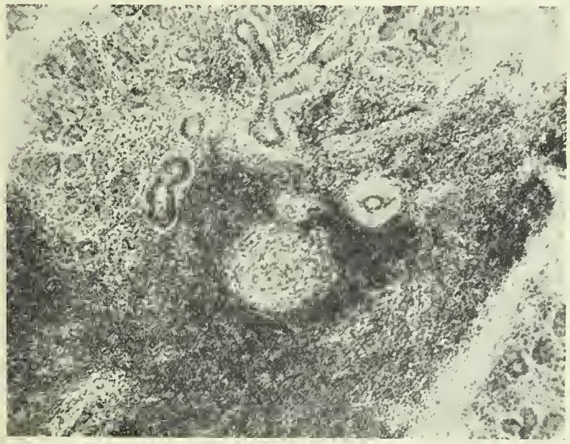


FIGURE NO. 9
(Case No. 11—J.J.)
Chronic inflammation of submaxillary gland associated with stone. Note acini and ducts with a lesion not unlike an early miliary tubercle consisting of epithelioid and lymphoid cells. (Microphotograph.)

On examination I found both ears negative. There was a medium amount of swelling in the region of the right parotid. Tonsils were deep and very chronically infected. Nose was clean, medium deflected septum to the right. Transillumination of frontal sinuses and antra clear. The natural opening of Stensen's duct was slightly inflamed and swollen. I applied local anaesthetic to the mouth of Stensen's duct and passed a probe in the duct and the probe passed back to the region of the gland without any trouble. After removing the probe I could notice a medium amount of muco purulent secretion mixed with the saliva exuding from the natural opening of Stensen's duct. General massage of the right parotid gland caused an increased flow of the secretion from Stensen's duct. I advised the patient to have a radiograph taken of all the salivary glands but she refused. The patient did not return for further treatment and I have not been able to find the end results of this case, but I know from the probe examination that she had an abscess in the Stensen's duct or in the gland near the Stensen's duct.

CASE NO. 5 (Author's Case)
SALIVARY CALCULI

Mrs. J. T., housewife, was referred to me by Dr. Justin D. Towner on March 10, 1931, and gave the following history: About twenty years ago she had had some soreness, at times, for several years, in the right side of the floor of her mouth. She did not remember whether this followed eating. She thought she had no symptoms of this for the last ten or fifteen years until three days ago when she noticed severe soreness and swelling under the right side of the tongue, anteriorally, associated with severe headache and general aching and chilly sensation.

On examination I found marked swelling and redness of the mucous membrane in the anterior and middle third of the floor of the right side of the mouth. By massaging the swelling I could see a small amount of purulent secretion exuding from the natural opening of the right Wharton's duct. Every time the patient would lift her tongue I could see purulent secretion flowing freely from the natural opening of Wharton's duct.

Radiographs (Figure 5) were taken by her dentist, Dr. Towner, which showed two large, oblong calculi lying in the long axis of the right Wharton's duct in the region of the anterior and middle third.

As the duct was draining spontaneously, I advised conservative treatment for from twenty-four to forty-eight hours before opening the duct, on account of the active infection present in the Wharton's duct.

About six hours following the first time I saw the patient she reported that her pain was worse, headache worse and general aching increased in severity. I called at the patient's home and found her in bed suffering considerably with pain in the floor of the right side of the mouth. On examination I found the floor of the mouth, in the region of the right Wharton's duct, increased in swelling and I noticed beginning pointing of an abscess one-half inch posterior to the natural opening of Wharton's duct. I applied 2% Butyn Solution and made an incision in this region and a profuse, thick, purulent secretion exuded. I inserted a blunt hook probe and felt a calculus deep in the lumen of the duct. I tried to deliver same, but the calculus would turn and I was unable to deliver the calculus. I advised leaving the calculus until the next day and prescribed saturated solution of Sodium Perborate every two hours as a mouth wash.

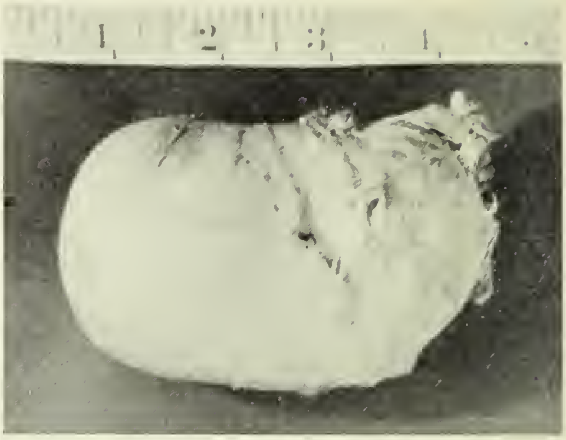


FIGURE No. 10
Case No. 14—Photograph of a Ranula.

About five hours later while the patient was using the mouth wash she felt something hard under the tongue. She felt in the region of the incision with her fingers and thought she felt the calculus. On examination, Dr. Towner found the anterior end of the calculus had engaged in the incision, and with a forceps he removed the calculus.

The following day a second radiograph (Figure 5, C) was taken by Dr. Towner and the picture showed that the posterior calculus had slipped forward in Wharton's duct to the region from which the anterior calculus had been removed.

The patient came to my office the same day and I passed a blunt hook probe in the first incision made the day before and felt the calculus and tried to deliver it, but the incision in the duct seemed too small to deliver same as the posterior calculus was larger than the anterior calculus. I injected the posterior edge of the first incision of the duct with Novacaine and enlarged it with small blunt scissors. I passed the blunt hook probe and delivered the second calculus. There exuded considerable muco-purulent secretion from the incision after removing the second calculus.

Twenty-four hours later the incision in the duct was about half the size made the day before and I saw slight thin muco-purulent secretion exuding from the duct incision.

Forty-eight hours following the delivery of the second calculus the saliva seemed to be normal in color in the incised duct and the incision in the duct looked smaller. The patient was free of all soreness and could eat with comfort.

A fourth radiograph (Figure 5, D) was made by Dr. Towner, which showed no calculus shadows in the floor of the mouth.

Case No. 6 (Author's Case)

Salivary Calculus

Mrs. J. R., well-nourished white woman, age 76, on November 3, 1930, was referred to me by Drs. E. C. Ellett and R. O. Rychener. For six weeks she had had swelling and pain on the left side of her jaw and the floor of her mouth during and following eating. At times this pain was so severe while eating that it was necessary for her to stop before finishing her meal.

On examination I found she had a very clean mouth; tonsils were medium sized and slightly chronically infected. Her nose was negative; transillumination of her sinuses clear. By bidigital palpation I could feel a hard substance in the anterior third of the left Wharton's duct.

The radiograph showed a medium sized calculus lodged in the anterior third of the left Wharton's duct.

Sixteen days later the patient was sent to the hospital. Two drams of 1% Novocaine, containing four drops of Adrenalin Chloride 1:1000 was injected in the floor of the mouth in top, both sides, and under Wharton's duct in the region of the calculus. The Wharton's duct in the region of the calculus was grasped with Coakley's forceps and an incision was made in the long axis of Wharton's duct between the jaws of Coakley's forceps down to the calculus. The forceps was removed and a short blunt hook was placed under the calculus and the calculus was delivered into the mouth. Immediately following delivery of the calculus a large amount of muco-purulent secretion was found behind the calculus, which seemed to flow out under considerable pressure. Examination of the lumen of Wharton's duct, posterior to where the calculus was, showed the duct to be markedly dilated. Suction was applied to the duct through the incision. The wound at the floor of the mouth was allowed to approximate without sutures. The patient remained in the hospital for forty-eight hours. Saturated solution of Sodium Perborate was used as a mouth wash every four hours for one week, at which time I examined the patient and found the duct incision closed and normal saliva was being expelled through the natural opening. The patient stated that all soreness had disappeared and she had no discomfort while eating.

Case No. 7 (Author's Case)

Salivary Calculi

Mr. P. B., occupation planter, well-nourished white man, age 41, consulted me in July, 1922, at which time he was suffering with chronic tonsillitis and rheumatism and pains in the back. I advised a tonsil operation, but having had severe bleeding following a gall-bladder operation about fifteen years previously he would not consent to the operation. His coagulation time was found to be three minutes and bleeding time two minutes.

I saw this patient about every three to six months and applied suction to the tonsil

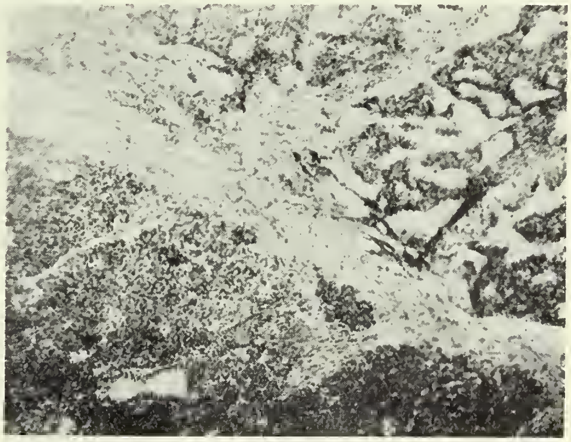


Figure No. 11
(Case No. 15—T. A.)

Primary carcinoma of parotid gland. Below are ducts and acini, above strands of tumor cells and between the gland capsule. (Microphotograph.)

crypts and removed purulent tonsil secretion.

In July, 1929, the patient stated that following meals he had some soreness, at times, in the region of the left side of the floor of the mouth and slight swelling of the gland under the left jaw.

By bidigital examination I found he had one small hard substance which could be felt in the mouth in the region of anterior third of Wharton's duct. I made a diagnosis of calculus of the Wharton's duct and advised removal of same. The patient refused operation.

Thirteen months later the patient was confined to the hospital under the care of Dr. George Livermore for a different illness. Dr. Livermore asked me to see the patient in regard to pain and swelling he was having in the left side of the floor of the mouth, which was at times more severe and more frequent than in the previous six months.

By bidigital examination I found he had, at this time, two hard substances in the Wharton's duct, one in the anterior third and one in the posterior third. No radiographs were made.

On August 14, 1930, I removed two salivary calculi (see Figure 2, DE) with two different incisions, one in the anterior third and one in the posterior third of Wharton's duct, in the same way as I just described above in case No. 6. There was no evidence of any infection found in the duct and no saliva under pressure. The incision was allowed to heal without sutures. I was able to see the patient for two days following the operation. I have not seen him since. I received a report from him six months after the operation and he stated that he has had no soreness or swelling while eating since the fourth day after the above operation.

CASE NO. 8 (Author's Case)

SALIVARY CALCULUS

Miss E. G., occupation stenographer, age 35, white woman, well nourished, consulted me on July 15, 1921, stating that she had had soreness and swelling in the region of the left submaxillary gland at intervals for the last ten years, during and following eating. For the last four weeks pain and swelling in the left submaxillary gland region had been severe during and following practically all meals.

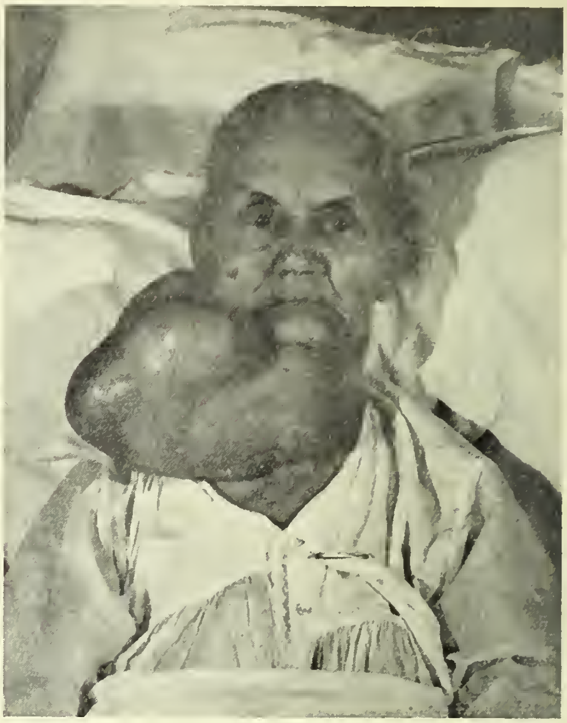


FIGURE NO. 12
(Case No. 16—Mrs. M. E. J.—Slide No. 20)
Mixed Cell Tumor of the Parotid Gland.

By bidigital examination I found she had a small calculus in the region of anterior third of the left Wharton's duct. No radiographs were taken.

The calculus was removed in my office under the same method as described in case No. 5. There was no soreness or swelling following eating after the operation for several months, at which time I lost track of the patient.

Two weeks ago I had a report from this patient stating that she had had no soreness or swelling following eating since the operation, which was about ten years ago.

CASE NO. 9

SALIVARY CALCULI

Mr. D. W., white man, age 23, apparently in good health, consulted Dr. P. M. Lewis on January 1, 1931, with the following history: recurrent pain and swelling in region of the right submaxillary gland for the last two years. Symptoms lasted about two days, at the end of which time they disappeared entirely. For the last ten days the patient stated that he had very severe pain in the region of the right submaxillary gland and at times could hardly swallow.

Examination showed, before operation, that there was a large hard mass mandible felt to be about one and one-half inches in size. Aspiration of the submaxillary gland gave only a small amount of serum. No x-ray picture was taken.

On January 7, 1931, extirpation of the left submaxillary gland was done by Dr. P. M. Lewis under local anesthetic with infiltration of 1% Novocaine.

I had the pleasure of seeing Dr. Lewis remove this gland and on examination of the submaxillary gland Dr. Lewis found the gland contained one large and one small calculus near the posterior region of the Wharton's duct.

With Dr. Lewis' consent, I had an x-ray picture taken of the submaxillary gland by Mr. Robert Soden at the Memphis Eye, Ear, Nose and Throat hospital with calculi replaced in the original location in the gland and the x-ray picture shows a large single shadow.

Miscroscopic examination by Dr. Phil C. Schrier was as follows:

"Throughout the section a round cell infiltration is noted. These round cells occur in dense collections as well as diffusely distributed. The gland retains its normal pattern and the epithelium of the acini and tubules appear normal. Diagnosis: Chronic Inflammatory Submaxillary Gland." (See Figures 6 and 7).

Dr. Lewis reported this case healed by first intention and the patient has had no discomfort since the operation.

CASE NO. 10

CALCULUS RIGHT WHARTON'S DUCT

Mrs. V. N., age 29, well-nourished white woman, consulted Dr. H. W. Qualls on March 27, 1930, with the following history: pain and swelling of the right jaw.

Her blood count was:

Leukocytes per cu. mm.	9,000
Small lymphocytes	17%
Large lymphocytes	3%
Large mononuclear	1%
Polynuclear: Neutrophiles	79%

X-ray report by Dr. Steve Coley on March 27, 1930, was as follows: Definite shadow suggesting calculus in region of parotid or submaxillary gland.

On March 28, 1930, Dr. Qualls removed a calculus from the right Wharton's duct.

The patient was discharged from the hospital on April 1, 1930, with pain and swelling relieved.

CASE NO. 11

SALIVARY CALCULI

Mr. J. J., age 47, well-nourished white man, occupation minister, consulted Dr. Harley Harris and Dr. Casa Collier on December 28, 1929, with the following history: At intervals for the last twenty years the patient noticed swelling and pain in the right submaxillary gland and had had calculi removed from this gland several times. For the past week the swelling and pain in the right submaxillary gland had been very intense.

The patient was admitted to the Methodist Hospital on December 30, 1929. The patient's temperature was 101. His blood count was as follows:

Leukocytes per cu. mm.	9,400
Small lymphocytes	18%
Large lymphocytes	2%
Polynuclear: Neutrophiles	79%
Espinophiles	1%

A radiograph was taken and reported by Dr. Steve Coley as follows: There is a large dense, slightly irregular calcification in region of the submaxillary gland on the right side. (See Figure No. 8.)

On December 30, 1929, the patient was operated on by Dr. Casa Collier, who removed the right submaxillary gland under general anesthesia (ethylene).

The pathological report by Dr. A. M. McCarthy was as follows: Specimen consists of a submaxillary gland and a small membraneous sac about 1 1/2 by 1 cm. filled with a firm, yellowish white, irregular stone, from which several small fragments have been broken. The gland is lobulated, encapsulated and near its center is a hemorrhagic area in which the calculus was

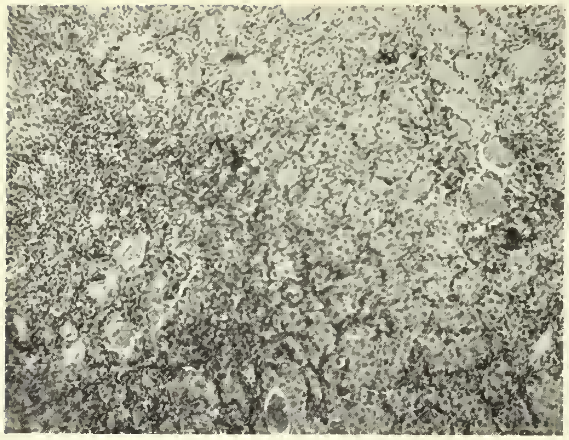


Figure No. 13
(Case No. 16—Mrs. M. E. J.—Slide 21)
Mixed tumor of parotid. Note the characteristic cell with a dark staining nucleus. (Microphotograph.)

embedded. One of the lobes is more firm and pale than the remainder, and one section is quite gritty and fibrous.

Histological study reveals the stroma of the gland to be infiltrated with many small cells, signifying a chronic inflammatory reaction (see Figure No. 9).

Diagnosis—Chronic Inflammation and Calculi of the Submaxillary Gland.

The patient was discharged from the hospital on January 3, 1930, in good condition.

Case No. 12

Calculus in Left Submaxillary Gland

M. T., age 57, occupation saw filer, white man, on January 10, 1929, consulted Dr. O. M. Laten and Dr. W. Likely Simpson with the following history: Pain on the right side of the face and swelling of the right jaw for one week. The jaw began swelling and the pain grew worse and the mouth became dry, very little saliva being excreted, and the jaw was so swollen the patient had difficulty in opening his mouth.

A radiograph was taken of the salivary gland and the duct, and reported by Dr. W. R. Bethea at the Baptist Hospital as follows: Bilateral calcification showing in the region of ducts of the submaxillary gland, with the larger on the right. Anterior posterior show both calculi internal to the jaw bone.

The patient was admitted to the hospital on January 11, 1929, with temperature 100. Twenty-four hours later the patient was operated on by Dr. W. Likely Simpson, who removed a calculus from both Wharton's ducts. The patient's temperature the first day was 100 2/5 and the second day the highest temperature was 99. The patient was discharged from the hospital forty-eight hours following the above operation in apparently good condition, with a notation of being discharged cured.

Case No. 13 (Author's Case)

Fistula of the Salivary Duct

Mrs. W. L. N., age 23, well-nourished white woman, was referred to me by Dr. H. A. Stewart on December 8, 1930, with the following history: Five months ago noticed swelling and soreness in the floor of the mouth, anteriorally, on the left side. This swelling would occur several times a week and would disappear within a few hours and apparently was not caused by sight of food or meals. Two weeks after first noticing swelling in the left side of the mouth she noticed soreness and tenderness, at which time she consulted her home physician and he made an incision in the floor on the left side of the mouth, and the patient stated that she expectorated a purulent bloody secretion. The soreness and swelling disappeared within a few days. Since the first week after the opening was made the patient noticed some swelling and soreness in the left floor of the mouth three or four times a week. The patient would press on this swelling with her finger and would seem to rupture the swelling and get relief.

When I first saw the patient I saw a deep scar in the region of the anterior third of Wharton's duct. From the looks of the incision it looked as if it had been made to open an abscess in Wharton's duct. There was a small fistula just behind the scar in the anterior proximal end of the left Wharton's duct which was exuding clear saliva. This opening was very small. Bidigital examination was negative.

I dilated the fistula opening with a very small pointed probe and inserted the point of very small scissors in the opening and made an incision in the long axis of the duct about one-half inch. I gave the patient a prescription for saturated solution of Sodium Perborate to use as a mouth wash.

Radiographs were taken extra-orally and intra-orally and were negative.

I saw the patient again on December 13th and on examination I found that the mouth of the fistula opening was about 1/4 inch in size, where I had opened it the first visit and the patient stated she had had no discomfort since the above incision was made.

I saw the patient again on January 20, 1931, and on examination I found her condition the same and free of the symptoms she had had on the second visit.

On April 8, 1931, I received a letter from the patient stating she had had no discomfort or symptoms since I saw her last.

CASE NO. 14

RANULA

C. F., well nourished, healthy-looking negro, age 27, occupation laborer in lumber yard, first consulted the Polyclinic, Memphis, Tenn., on April 14, 1924, with the following history: In 1915 tongue became swollen. Painless swelling developed below the chin which was drained in 1916, but did not subside. Was operated on again in a few weeks, at which time the swelling disappeared. The above swelling recurred in the same region and in the same place in 1920. Was operated on twice. Was relieved for a few months. Since then gradual recurrence. Main discomfort was due to the fact that the tongue became so thick. No other symptoms were noticeable.

Examination showed a very large cystic growth in the floor of the mouth, extending deep into the neck structures in median line. The cyst was so large it elevated the tongue so high that it was impossible to see the throat. Several old skin scars were seen in the region of the swelling.

The patient was operated on by Dr. H. W. Hundling, who at that time was with the Polyclinic. Dr. Hundling's description of the operation is as follows:

"Through a curved upper cervical incision, paralleling the lower mandible for a distance of 6 cm. to either side of the midline, the platysma muscles were cut and the geniohyoid muscle divided on the right side. The cyst was dissected and found to extend upward to the under surface of the tongue. The capsule was not ruptured and the entire mass measuring 8x6x6 cm. removed intact. The muscles were sutured, one iodoform strip was inserted through the right angle of the wound and closure was made with dermal."

Figure No. 10 shows a photograph of the above ranula. It was made by Dr. Charles H. Heacock and Miss Augusta Thomas at the Polyclinic.

CASE NO. 15 (Author's Case)

PRIMARY CARCINOMA OF THE PAROTID GLAND

T. A., white man, age 75, physician, consulted me on February 14, 1929, stating that for one year he had noticed a growth behind the angle of the jaw on the left side. He did not have any pain or tenderness on palpation or any discomfort while eating.

On February 15, 1929, under local anesthetic I removed a tumor from the region of the lower border of the left parotid gland. This tumor seemed to be attached to the lower border of the parotid gland and extended deep in the neck to the carotid sheath, but apparently was not attached to the carotid sheath. The incision was closed with deep catgut sutures inserted in the fascia and silk surtures were used to close the skin incision.

Section from the gland from the left side of the neck, made by Mr. L. O. Dutton, was reported as follows: Small mass 2 cm. in diameter very firm. Cut surface is whitish and mottled in appearance. Microscopic section shows a portion of salivary glands with areas of anaplasia. Separated from these lobules by a band of fibrous stroma is an area containing numerous nests of malignant epithelial cells showing many mitotic figures. There is no adenomatous arrangement in this area. The origin of these malignant cells is not clear, but the anaplasia of the glands indicates a primary tumor of the salivary glands. Diagnosis: Primary Carcinoma of the Parotid Gland. (See Figure No. 11.)

Within the first twenty-four hours after the removal of the tumor a small haematoma developed in the incision. In a few days this haematoma was removed and there occurred an external fistula. This fistula existed for one month following the operation, at which time it closed of its own accord without further treatment.

The patient was given x-ray treatments by Dr. W. S. Lawrence, as follows:

Voltage, 160,000; filtration, 1/2 millimeter copper plus one millimeter aluminum; distance, twenty inches; current, 5 M. A.; time, thirty minutes. In all, nine such treatments were given, beginning Feb. 19, 1929, and ending May 10, 1929. The dates of the several treatments were as follows: 2-19-29, 2-22-29, 2-25-29, 2-27-29, 3-25-29, 3-27-29, 3-29-29, 4-29-29, and 5-10-29.

About two months following the operation the patient noticed beginning facial paralysis. This paralysis gradually increased until there occurred a complete peripheral paralysis of the left facial nerve. Taste and good hearing is still retained in the paralyzed side.

My last examination, made about eight months after the operation, showed no return of the growth in the parotid region, but the patient still had a Bell's paralysis on the left side.

CASE NO. 16

MIXED CELL TUMOR OF THE PAROTID

Mrs. M. E. J., age 77, white woman, consulted Drs. Leroy, Coors, Elcan and Rawls Clinic on October 29, 1929, with the following history: Noticed enlargement of the lower region of the right parotid gland, which has steadily increased for twenty years. She complained of only the weight of the tumor pulling on the right side of her neck. (Photograph of this case is shown in Figure No. 12. Made by Mr. L. O. Dutton.) She had no pain or tenderness.

Pathological report by Dr. McCarthy is as follows:

"Specimen consists of large tumor mass 18x16x13 cms. Outer portion of external part is covered by skin, the remainder is a denuded surface; apparently its point of attachment, very nodular, some of which are soft and suggest fluctuation. Others are quite firm; apparently is encapsculated, except at its point of attachment. On section presents a varied pattern, the greater portion is dense, fibrous tissue, some areas dense enough to suggest cartilage. There are islands of very soft, grayish, pink, brain-like tissue, which is very friable. There are cavities filled with a brown liquid material, apparently areas of degeneration.

Histological Examination: Fails to reveal any of the histology of thyroid. It presents a variable picture of epithelial hyperplasia, connective tissue, mucinous connective tissue, cartilage and even suggestive bone.

The epithelial cells in areas have characteristics of malignancy. Diagnosis: Mixed Celled Tumor of Parotid." (See Figure No. 13.)

The patient left the hospital in good condition. Six month s later she died as a result of an automobile accident.

I am especially indebted to my wife, Helen Jean Anthony, for her proofreading and print mountings in this paper.

I am indebted for assistance in this study to Dr. Harry C. Schmeisser, and for the illustrations to Mr. Joseph L. Scianni, director and illustrator, respectively, of the University of Tennessee Pathological Institute.

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CAT.

DR. ROBERT CALDWELL
President, Tennessee State Medical Association
(See page 196)

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
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Office of Publication, 510 Doctors Bldg., Nashville, Tenn.

H. H. SHOULDERS, M.D., Editor and Secretary

MAY, 1931

EDITORIAL

KNOXVILLE MEETING

In many respects the recent meeting of the Tennessee State Medical Association held at Knoxville was one of the most successful the Association has ever experienced. It is starting off the second century of its existence in a glorious way.

Registration.

Four hundred fifty-five doctors registered. There were a number of doctors who did not register and this figure does not include exhibitors and other personnel in attendance. There were fifty of the sixty-seven component societies represented. Of the counties outside of Knoxville, Davidson registered the largest number—fifty-seven; Hamilton the next largest number with thirty-four; Shelby only registered twenty-eight. One hundred sixty-four of those in attendance registered at the Hotel Andrew Johnson. This is the second largest registration the Association has ever experienced—the largest being the occasion of the centennial celebration at Nashville in 1930.

Scientific Program.

Only one number was absent; this was due to the death of the essayist, Dr. E. B. Bowery, of Johnson City. This is a most creditable showing for the men who were given places on the program. A vast majority of those listed to discuss the papers were present. Papers as a whole were exceptionally good. A wide variety of subjects were discussed. Regardless of one's particular interest or specialty in medicine, there were numbers on the program of interest. The attendance on the scientific sessions was good.

Hospitality

The Knox County Medical Society did an exceptionally fine job as host of the meeting. It took work and it took money for the members of the Knox County profession to entertain the Association as we were entertained at Knoxville. Those committees are entitled to a great deal of credit for a lot of hard work.

The only unfortunate incident was the fact that all in attendance at the banquet could not be seated, but this was not the fault of the committee on arrangements, nor of the hotel. It was due to the fact that one hundred men presented themselves for plates at the banquet who had not registered at the desk. There are few institutions that can accommodate one hundred people who are not expected at a banquet.

The management of the Hotel Andrew Johnson is entitled to an expression of appreciation. Its genial but diminutive manager, Mr. Miller O'Rear, did his level best to give us every service possible.

We came away from Knoxville with a fine impression of the town, with a wholesome regard for its doctors and with a profound appreciation of our own membership in an organization that is actuated by such motives as organized and promoted the Tennessee State Medical Association.

The Action of the House of Delegates.

The business of the House of Delegates was transacted at Knoxville with dispatch, and at the same time nothing was acted upon that was not thoroughly discussed.

The House did some very important work. Of first importance was the passage of an amendment to the by-laws creating a Liaison Committee with a membership of five. This committee has very important duties to perform in the maintenance of that state of harmony which should exist between the state and county health departments and the medical profession of the state.

Another matter of importance was that of passing a resolution designating the annual banquet of the State Association the

"President's Banquet" and directing that every member pay for his plate. This was a wise move, in our opinion.

A precedent was established when the society was small and when the attendance was small that the host society give a banquet on the second evening of the meeting. This did not work a heavy hardship on the members of the host society when plates at a banquet were less expensive and when the attendance was much smaller. At the present time the cost of a banquet runs into large figures and it seems that none of these host societies were willing to take the responsibility for breaking the precedent. In this instance the House of Delegates, representing all the societies, broke the precedent and designated the banquet night to be a banquet in honor of the president. This is in line with the practice of other organizations similar to ours. It was a logical move. We should all be glad and willing to pay our pro rata part of the expense of such an occasion.

DEATHS

Dr. L. L. Sheddan, Fayetteville; University of Tennessee Medical School, Nashville, 1893; aged 65; died April 23rd.

Dr. E. B. Bowery, Johnson City; Lincoln Memorial University, Medical Department, Knoxville, 1915; aged 43; died April 7th from injuries received when he was thrown from his automobile on March 24th.

NEWS NOTES AND COMMENTS

Dr. C. H. Johnson, of Lexington, has returned from Memphis, where he was treated for injuries received several months ago.

Dr. R. B. Wood, of Knoxville, has been elected chairman of the State Y. M. C. A. Physical Education Committee.

At the Knoxville meeting of the Tennessee Hospital Association the following were elected officers: President, Dr. Eugene Elder, Knoxville; Vice-Presidents, George D. Sheats, Memphis, and W. D. Wood, Nashville; Secretary-Treasurer, C. P. Connell, Nashville.

Mrs. William A. Catlett recently presented the Knoxville General Hospital the medical library of her late husband. The collection included more than one hundred twenty-five volumes, many of them extremely valuable.

Dr. and Mrs. I. R. Storie, of Jamestown, were seriously injured in an automobile accident last month.

The Baird-Brewer General Hospital at Dyersburg graduated a class of nurses on the 12th of this month.

Dr. O. M. Swaney has recently been elected a member of the Rogersville Board of Education.

Dr. P. E. Parker, of Sweetwater, spent part of April in New York doing some work on spinal anesthesia and surgery.

MEDICAL SOCIETIES

Bedford County—The April meeting scheduled a paper by Dr. M. L. Connell on "Catarrhal Fever."

Carroll, Weakley, Henry and Benton Counties—The meeting on April 7th had twenty-five members in attendance.

Three papers were presented: Dr. V. E. Massey, Huntingdon, "Pernicious Vomiting"; Dr. R. A. Douglass, Huntingdon, "Eclampsia", and Dr. George McSwain, Paris, "Surgery in Pernicious Vomiting and Eclampsia." A general discussion followed.

Chester, Decatur and Henderson Counties—The April meeting was held in Decaturville on the 9th. The attendance was good and an interesting program was given.

Coffee County—Dr. J. H. Farrar, of Manchester, was host for the April meeting. A discussion on Cancer was led by Dr. J. A. Mitchell, of Tullahoma.

OUR PRESIDENT

Originally Kentucckians, the sturdy Caldwell stock migrated to Missouri in the early seventies. The subject of our sketch, our recently elected president, was born in Liberty, Missouri, March 4th, 1874, one of seven sons, all of whom have proved themselves leaders in their respective fields of agriculture, business, or medicine.

When Robert was two years old the family moved to the vicinity of Nashville, and here he received his primary education until he was twelve, when the father's ill-health took them all to Texas. The boy continued his schooling there, between terms acting as assistant on the farm, until his father's death, when at eighteen he went back to Missouri, finishing his academic studies at Haynes Academy, Excelsior Springs.

He entered the Medical department of the University of Tennessee in 1900 and graduated with honors in 1903, after which he accepted a position as Assistant in Surgery to Doctor W. D. Haggard, who at that time operated a private infirmary on Sixth Avenue in Nashville. Serving his full term in this capacity, he established an office for himself in the Jackson Building in Nashville, and at once began the practice of Surgery. At this time he was appointed Demonstrator of Anatomy in the University of Tennessee, and later Assistant to the Chair of Surgery. In both of these positions he was the idol of the medical students, and many of them were made better men by striving to emulate his example. He became associate and later Professor of Surgical Anatomy in the University of Nashville, after the combination between the Universities of Tennessee and Nashville, and at a still later date, when the University of Tennessee was removed to Memphis, he became Professor of Clinical Surgery in Vanderbilt University, which position he occupies at the present time.

Doctor Caldwell has been quick to adopt, and is expert in, the execution of those newer ideas advanced by the leaders in his special field of medicine. His enthusiasm for this department has always inspired him to be among the earliest in the advocacy of the more daring operations, and explains his particular fondness for early operations on the acute gall bladder, as well as his selection of the chest as his particular field in surgery.

He was married to Miss Ellen Rion on December 12, 1905, and to this union three lovely daughters were born, each of these having proved the quality of her inheritance by leading either in school or university. The oldest of them is now in Columbia University, New York, where she will soon get an M. A. degree.

Doctor Caldwell's ability for leadership, his general reputation as a square shooter, his recognized fairness to all has been demonstrated by his selection to the presidency of most organizations to which he has belonged, be it a social club, as Richland; a civic organization, as the Auto Club, or a State Medical Society.

Knox County—April 28th: "Lateral Sinus Thrombosis," by Dr. W. W. Potter. Discussion opened by Dr. R. G. Reaves.

May 5th: Dr. Oliver Hill's paper was a report of two cases; first, "Case of Miliary Tuberculosis in Child Three Months Old." Discussion opened by Dr. J. B. Naive. Second, "Undulant Fever in Child Seventeen Months Old." Discussion opened by Dr. Ralph Monger.

Lauderdale, Haywood and Tipton Counties—The April meeting was held in Covington. Nineteen members were present. Dinner was served at the new Hotel Lindo. Dr. C. S. McMurray, of Nashville, addressed the meeting.

Monroe County—The April meeting was held at the Sweetwater Hospital. Drs. W. J. Cameron, Sweetwater; B. W. Bagwell, Madisonville, and A. K. Turner, Knoxville, were speakers.

Roane County—The Roane County Medical Society held an interesting meeting in the Harriman City Hall April 21st. Those in attendance were Drs. J. C. and G. E. Wilson, Rockwood; Dr. J. J. Waller, Oliver Springs; Drs. John Roberts, J. C. Fly and Dr. O'Daniel, Kingston; Drs. F. A. Neergaard, T. L. Bowman and W. W. Hill, Harriman.

Dr. G. E. Wilson read an able paper on "Pyothorax," which was interestingly discussed. Some rare cases were reported.

It was decided to join in with Loudon, Monroe and McMinn County societies in four midsummer meetings, beginning in May.

Robertson County—The regular monthly meeting of the Robertson County Medical Society was held in Springfield April 21st. Dr. S. J. Fentress, the President, presided over the meeting and the following members were present: Drs. Kempf, Gossett, Garner, Dye, E. S. and J. S. Hawkins, Porter, Rude, Banks, Connell, Moore, Thomas and Fyke.

Mrs. B. F. Byrd, of Nashville, Vice-President of the Ladies' Auxiliary of the Tennessee State Medical Association, appeared before the Society and outlined plans for perfecting an organization among the doctors' wives of the county.

The essayists for the meeting were Drs. W. S. Rude and M. B. Garner. Dr. Rude had for his subject, "Surgery in Tuberculosis," which was illustrated with x-ray films. Dr. Garner's paper was entitled "Life as Witnessed by a Country Doctor." Both papers were ably presented and elicited a liberal discussion.

A report of the State Association meeting recently held in Knoxville was given by Dr. W. W. Porter, who was a delegate from this county.

The next meeting of the Society will be held on the 19th of May, when it will be entertained by Drs. Fentress and Garner, of Goodlettsville.

Sullivan and Johnson Counties—On April 3rd this society held its meeting at Grace Hospital as guests of Dr. A. J. Kimmons. Dr. R. G. Waterhouse and Col. David Townsend were the visiting speakers. About thirty members enjoyed the meeting.

OTHER MEDICAL SOCIETIES

The West Tennessee Medical Association will meet May 21st and 22nd at McKenzie.

The Upper Cumberland Medical Society will meet at Red Boiling Springs on June 16th and 17th. An interesting program is being prepared.

TENTATIVE PROGRAM

PROGRAM FOR MEETING OF THE VANDERBILT UNIVERSARY MEDICAL SOCIETY

April 17, 1931, 8 P. M., Amphitheater of the Medical School.

1. *Case Reports.*

(*a*) *Substernal Thyroid With Heart Failure*—Dr. W. H. Trimble.

A colored man, age 51, had diabetes for ten years, controlled with a liberal diet; mild thyrotoxicosis for approximately a year; congestive failure for six months. Interesting features were: The development of x-ray evidence of what appeared to be neoplastic growths in the right lung, which disappeared after the congestive failure was relieved and which reappeared in exactly the same areas when he developed congestive failure the second time; and the development on the ward of acute pulmonary edema following thoracentesis and the removal of 800 cc. of fluid. During the attack of acute pulmonary edema, and before the patient could be bled, he developed peripheral circulatory shock with csesation of respiration, an imperceptible pulse, and cyanosis. He was relieved by the use of adrenalin and ephedrin.

Case discussed by Drs. Morgan and Burwell.

(*b*) *Hemorrhagic Serum Sickness*—Dr. Louise Beard.

F. P., a boy, age 3 years, had a severe meningococcus meningitis, typical in its course, which was treated strenuously with serum both by cisternal and lumbar punctures. Six days after first treatment patient had a typical urticarial serum rash lasting three days, which cleared entirely. Twelve days after first treatment patient developed an extensive erythema followed shortly by a severe hemorrhagic rash over whole body, lasting twelve days, associated with high fever. Patient appeared extremely sick. Complete recovery.

Case discussed by Drs. Dodd and Meleney and Goodpasture.

2. *A Clinical Study of Ascariasis*—Dr. A. E. Keller.

Study consists of analysis of findings as determined from the history and physical and blood examinations on 107 white and 60 negro children infested with Ascaris Lumbricoides. Controls consisted of 54 white and 69 negro children without Ascaris. In both infested groups a large percentage complained of abdominal discomfort and disturbed sleep. There was an average of 8.9 per cent eosinophiles in the white, and 5.3 per cent in the negro children. Average percentages of eosinophiles in both control groups within normal limits. Negative clinical findings emphasize importance of routine examination of feces in children to determine presence of Ascaris.

Paper discussed by Drs. Leathers, Casparis and Morgan.

3. *A Cylic Variation in the Capacity of the Anterior Hypophysis of the Sow to Induce Ovulation in the Rabbit.*—J. M. Wolfe.

The anterior hypophysis of the sow undergoes a marked variation in its capacity to induce ovulation in the rabbit. During pro-oestrous the intravenous injection of 1 milligram of fresh anterior lobe tissue will induce ovulation, while during oestrus 10 milligrams are necessary. During dioestrous or the lutein phase of the cycle, it is necessary to inject 20 to 40 milligrams of fresh tissue. The anterior hypophysis of the pregnant sow shows a marked variation in its capacity to induce ovulation.

Paper discussed by Drs. Cunningham, Leathers and Goodpasture.

NEWS OF WOMAN'S AUXILIARY

PRESIDENT'S MESSAGE TO THE WOMEN OF THE STATE AUXILIARY

I deem it a privilege to become the president of such a marvelous group of women. I am not a native Tennessean, but if I had the privilege of choosing the place of my birth I would choose Tennessee. Love is to be our watchword and work is to be our by-word. Co-operation is to be our everyday thought, and excellence is to be our goal. A well-organized state is the wish of every woman in the organization, and this can only be accomplished by the hearty cooperation of every woman in the state. Let's forget ourselves and put Tennessee on the map.

I know that all of us will make mistakes and your executive board asks for your kind forgiveness for any that might occur. Please feel free to write to the state office, located at 2447 Broad St., Memphis, about any of your troubles, and if we can't help you to solve them, we will direct you to someone who can.

Wishing for you and yours the happiness that you justly deserve, I am as ever

Yours,

MRS. W. H. GRAGG.

Mrs. W. H. Gragg wishes to announces the following state chairmen:

Organization—Mrs. W. W. Potter, 1533 Laurel St., Knoxville, Tenn; Mrs. D. H. James, 910 S. Third St., Memphis, Tenn.

Hygeia—Mrs. W. T. Pride, 540 S. Belvidere Blvd., Memphis, Tenn.

Education—Mrs. W. T. Braun, 275 N. McNeill, Memphis, Tenn.

Revision—Mrs. E. C. Mitchell, 774 Snowden Circle, Memphis, Tenn.

Press and Publicity—Mrs. J. F. Fraser, 1980 Lyndale; Mrs. W. T. Black, 1234 Peabody, Memphis, Tenn.

The following list of officers were elected at the state meeting, Knoxville:

Mrs. W. H. Gragg, 2447 Broad St., Memphis, Tenn., President; Mrs. Oliver Hill, 213 Garden Ave., Knoxville, Tenn., President-elect; Mrs. Kyle Copenhaver, Sequoyah Hills, Knoxville, Tenn., First Vice-President; Mrs. J. F. Fraser, 1980 Lyndale St., Memphis, Tenn., Second Vice-President; Mrs. B. F. Byrd, Granny White Pike, Nashville, Tenn., Third Vice-President; Mrs. W. O. Floyd, 1610 19th Ave., South Nashville, Tenn., Recording Secretary; Mrs. Willis Campbell, 32 Morningside Drive, Memphis, Tenn., Corresponding Secretary; Mrs. Dewey Peters, 302 Kenyon Ave., Knoxville, Tenn., Treasurer.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By Hugh Barr, M.D.
Medical Arts Bldg., Nashville

A Preliminary Note on the Anesthetic Properties of Certain Unsaturated Ethers. Prof. Chauncey D. Leake, Ph. D., and Mei-Yu Chen, A. B., San Francisco, California. Current Researches in Anesthesia and Analgesia, January-February, 1931.

In considering the marked anesthetic properties of di-ethyl ether and ethylene, it seems possible to predict that a compound combining the chemical characteristics of each would certainly be a good general anesthetic agent. In this instance, the observed phenomena are the properties of di-ethyl ether and ethylene, and the theory is that a relationship does exist between chemical constitution and pharmacological action.

It is recognized that in certain homologous aliphatic series of compounds, as the alcohols, toxicity increases in proportion to the number of carbon atoms in the straight carbon chain. Also the boiling point increases with the toxicity. From these considerations it could be predicted that the higher unsaturated ethers in our proposed homologous series would be unsatisfactory for anesthetic purposes, not only because of too great toxicity, but also because of too high a boiling point.

Since di-ethyl ether is the most satisfactory alkyl ether for general anesthetic, and since ethylene is the most satisfactory unsaturated hydrocarbon for this purpose, a combination of these two would form di-vinyl ether, which would be, in all probability, the most satisfactory unsaturated ether for anesthesia.

In experiments on mice, di-vinyl ether not only anesthetized more promptly than did ordinary ether in the same concentration, but recovery was also quicker. The other unsaturated ethers were slower in action and more depressing to the respiration. Allyl-ether and di-allyl ether caused delayed death in a high percentage of the mice studied. Di-vinyl ether was found to have sufficient anesthetic power without evidence of toxic action to justify further careful and detailed studies.

CLINICAL PATHOLOGY

By R. H. Monger, M.D.
Medical Building, Knoxville

Fatal Anaphylaxis in Man. Jour. Lab. and Clin. Med., January, 1931. W. M. Sheppe, Wheeling, W. Va.

The author studied the case of a sudden death following the injection of foreign protein and was able to get a post mortem examination. He cites this case as an example of fatal anaphylaxis in man when it is of the bronchospastic type. He also studied fifteen other cases in which post mortems had been made. There were findings in thirteen of these cases that were also characteristic of these cases that were also characteristic of true anaphylaxis in man. In each of these thirteen cases death occurred either from bronchospasm or splanchnic dilatation. He advances the theory that an entirely different mechanism is responsible for post injection deaths not exhibiting bronchospasm or splanchnic dilatation at autopsy, this theory being possibly thymicolymphatic. He stressed the idea that all fatalities from injection of serum be subjected to autopsy for the elimination of other and unsuspected causes of death, for recording of careful observations relative to the condition of the pulmonary, thymicolymphatic and splanchnic, and accurate classification of type of reaction based on anatomic observations.

Schilling Index in Appendicitis. Jour. Lab. and Clin. Med., January, 1931, R. H. Gordale and M. E. Manning.

These authors studied the Schilling index, white count and microscopic observations in forty appendectomies, ten of these being acutely inflamed. There was a definite shift to the left or an increase in young forms of the neutrophils in the acutely inflamed appendices. The remaining appendices showing no acute pathologic changes had little or no increase in young forms despite an increase in several of the white counts. The white counts and total percentage of neutrophils do not always run parallel with the infection in the appendix. In view of these observations, they believe that the Schilling index, in addition to the white count, renders a more accurate picture of the pathologic condition of the appendix than the white count with the ordinary differential.

DERMATOLOGY

By E. E. Brown, M.D.
Doctors Building, Nashville

Apparent Specific effects of Sodium Iodide in Herpes Zoster, by E. Wood Ruggles, M. D., Rochester, N. Y.

The doctor does not claim to be the originator of this line of treatment, but he does claim its resurrection.

He reports its use in fifteen cases. His routine treatment was the administration intravenously of a 20 cc. ampule containing two grams of sodium iodide on the first, second, fourth and seventh days. Two patients received only two injections and four patients received only three. The pain was relieved in from twelve to twenty-four hours and the vesicles began to dessicate in about the same length of time. All of the cases cleared up in from ten to seventeen days. Their duration had been from a few days to three months.

In conjunction with this treatment in some of the cases ultra violet ray and a dusting powder was used, but his previous experience in this line of treatment had been very unsatisfactory. Thus, he attributes the success to sodium iodide.

INTERNAL MEDICINE

By R. B. Wood, M.D.
C. J. Carmichael, M.D.
Knoxville

Acute Coronary Occlusion Clinical and Electric Cardiagraphic Study of Twenty Cases, by Louis H. Sigler, M. D._ Annals of Internal Medicine, Vol. 4, No. 8.

On reviewing these cases the author believes the phenomena demonstrated are dependent on the acuteness of onset and the character of the damage. The acuteness of the onset determines the original symptoms and shock. The amount of damage determines the objective phenomena such as fever leucocytosis, the presence of a pericardial friction rub, embolic phenomena and the electrocardiagraphic changes.

He considers the most important electrocardiagraphic evidence to be the frequent alterations in the makeup of the graphs from one period of time to another. Of these the changes in the position and configuration of the R-T and S-T segments and the T wave.

Duodenitis: Review of 26 Cases So Diagnosed by Dr. T. Grier Miller in Medical Clinics of N. A. January, 1931.

A review of Judd's report of 1921 and 1922 is given in brief, as well as of MacCarty's pathological findings reported in 1924. Later Judd and Nagel reviewed 26 cases and again stated their belief that this lesion showed little or no abrasion of the mucosa and was not a stage of ulcer formation. In 22 of the above cases the history suggested ulcer, hemorrhage being present in 23 per cent and x-ray diagnosis being that of ulcer in 22 cases. Hyperchlorhydria was present in 23 cases.

Kirklin in 1929 reviewed the x-ray evidence of 45 cases and believed that the following observations were fairly characteristic:

1. Irritability of the bulb with a tendency to quick but not complete emptying.
2. A deformant cap.
3. Absence of a definite niche.

In the 26 cases reported by the author, 23 showed that ptosis was not present, gastric retention was present in only three, peristalsis and motibility similar to that of duodenal ulcer, and pylorospasm was present in 42 per cent.

Inconstant irregularity of the cap was noted. Duodenal stasis was not present and colon stasis was present in only 27 per cent.

The clinical picture is given in summary:

Males predominate five to one; eight cases in the third decade, 13 in the fourth and five in the fifth. The symptoms were those of gastric or duodenal ulcery and ranged from three weeks to ten years, average of four years. Five smoked cigarettes, four indulged in alcoholics and two had syphilis. Tenderness was noted in 14 cases. The incidence of discoverable focal infection was low. Fifteen cases had hyperchlorhydria, seven were normal and three no free hydrochloric. Fifty per cent had normal duodenal drainages.

An ulcer regime resulted in benefit to twelve of seventeen cases.

OBSTETRICS

By James R. Reinberger, M.D.
416 Medical Arts Bldg., Memphis

Accidental Hemorrhage. Ablatio Placenta-Amer. Jour. of Obs. and Gyn., February, 1931. J. O. Polak, Brooklyn, N. Y.

Ablatio is described as a partial or a complete separation of a normally implanted placenta and is given as a frequent accident in the last weeks of pregnancy. He quotes Holmes with a frequency of one in eight hundred and ninety-four labors and a frequency of one in every three hundred and five labors in his series of 4,878 consecutive cases. This condition may present uterine hemorrhage which may be the apparent or the concealed. This depends much upon which portion of the placenta is separated. The nearer the separation to the margin of the placenta the more externally bleeding. He gives as the causative factors toxemia, tortion and endometrial diseases. This condition is almost never seen in eclampsia, but with chronic nephritis and infarcts may contribute. Torsion of the uterus is a normal physiological occurrence and if the torsion be extreme there is a congestion or a blocking of the venus return supply with a consequents that minute hemorrhage frequently occur in the spongy layer of the dicidua basalis which loosens the placenta with resulting hemorrhage. Endometrial disease is a very common cause of abortion and placenta previa, maybe this predisposes to bleeding. Trauma alone or superimposed on diseased endometrium apparently results in hemorrhage.

The first symptom of ablatio usually occurs in the latter weeks of pregnancy or during labor. The first symptom being sudden and severe pain and this associated with faintness to extreme shock. Vaginal bleeding may or may not be present at first. The uterine wall is firm and tender and is tonically contracted. The pain is constant. This is due to the hemorrhage into the uterine muscularature. The diagnosis is only to be confused with placenta previa, which is ruled out by the absence of placenta over the cervix. Possibly with ruptured uterus in which abdominal palpation reveals a cessation of the contraction, recession of the presenting part and maybe the development of a separate abdominal tumor.

Prognosis: It is always serious. Delivery must be immediately brought about.

Treatment: Depends upon (1) the period of justation; (2) parity of the women; (3) whether or not the woman is in labor; (4) condition of the membrane; (5) dilitation of the cervix; (6) the amount of blood lost. If occurring early in pregnancy is treated as a miscarriage. If occurring in the latter weeks in pregnancy or during labor indications are to prevent shock and to control further bleeding. Morphine is advocated, also the application of heat and the intravenus injection of 50 cc. of a 50 per cent Gum Glucose solution. Blood transfusion, if possible. No operation is attempted until shock is overcome. The hemorrhage is controlled by emptying the uterus and by pack. If in a primipara with a rigid cervix, Cesarean Section under local anesthesia is indicated. If the cervix is soft and later progressing nicely the membranes are ruptured, a tight abdominal binder is applied and small doses of pituitary are given. If this fails to arrest the uterine bleeding and this conservative treatment fails abdominal Cesarean Section as advocated above should be carried out.

The reviewer has encountered several cases of extreme ablatio placenta and feels that active interference is indicated from above under local anesthesia after the patient has been resusitated from shock. More often, he has seen the patient go into extreme state of shock out of all proportions to the bleeding. From examination of two autopsy specimens, it is evident that the disease itself is not so uniquely confined to the dicidua basialis as is stated in the article just reviewed, but that most of the inter and intra muscular hemorrhage is in the outer half of the uterine wall and that the placental side is normal and the bleeding may possibly be due to some separation, but most of it would seem to be due to the extreme lack of contractility of the uterine muscularature around the large sinuses. Therefore, it seems that there is some special toxin which gets not only in the uterus, but in the other organs. Stander has described as simulating histamine which gives a profound shock, experimentally in animals. Abdominal delivery offers the safest mode of approach in that the uterine pathology may be viewed directly and if too great the uterus can be removed. Furthermore, the story is not over, even the cessation of bleeding in that these patients will recover and again lapse into severe states of shock that must be returned to the normal state with the measured as mentioned by Dr. Polak. I have personally found transfusions the best for all purposes.

OPTHALMOLOGY

By Robert J. Warner, M.D.
Doctors Building, Nashville

The Economic Importance of Squint in Children and Its Effect in After Years. Frank N. Knapp, M. S. Ophthal., M. D._ Minnesota Medicine, April, 1931.

The early diagnosis and treatment of squint is important if the vision of both eyes is to be preserved. It is very discouraging to see a young adult for the first time and admit that he is beyond the age where it is possible to restore the vision of his crossed eye. With early training the vision in both eyes is retained and the physician and mother are both amply rewarded in being able to send the child into the world with two seeing eyes.

Binocular single vision is the result of fusion of two separate images by the brain centers. Diplopia is the production of two saparate images that cannot be fused. Diplopia causes discomfort to the individual. Patients with squint do not complain of diplopia because there is a mental suppression of the image from the deviating eye. In all cases of squint, fusion of the image is suppressed for the comfort of the individual. After the suppression of fusion has gone on for a period of time it becomes permanent, with the result that the deviating eye is functionally blind. This loss of vision of one eye is the fundamental question for consideration. Parents are concerned chiefly with the cosmetic result of squint, which is secondary in comparison to the loss of vision. Many parents are astounded as they follow the examination of the child and learn that he has but one useful eye.

He summarizes his article with:

1. Effective treatment of squint must be carried out before the school age.
2. Loss of vision of one eye from squint is a serious handicap.
3. No physician should be guilty of advising parents that the child will outgrow the defect.

ORTHOPEDIC SURGERY

By Robert F. Patterson, M.D.
Acuff Building, Knoxville

The Surgical Cure of Halux Valgus, by C. W. Peabody. Journal Bone and Joint Surgery, April 1931.

The author points out the fact that in all three of the operations most commonly used to cure Halux Valgus and Bunions; namely, the Hueter, the Mayo and the Keller operations, the procedure is unnecessarily radical. He finds in most cases that there is a much better joint surface present than can be formed by a nearthrosis or an arthroplasty, which the above operations represent. In a few cases with hyperthropic changes these procedures may be indicated.

He reports the technique of an operation which has been used by him and his associates in fifty-five cases operating upon 106 feet. The results seem unusually good. Through a dorso medial curved incision the bursa is exposed. The skin well freed and an incision is made through the capsule from the phalanx around the exostoses and back to the joint on the under surface. The flap is freed and contains the bursa. Then the exostosis is removed flush with the inner surface of the shaft removing a portion of its inner surface for capsular attachment. Then a hole is drilled through the bone just proximal to the cartilage and another one inch proximal on the shaft and through these are passed a catgut suture. Then a wedge is removed not quite through the bone just proximal to the head and with a chisel directed upward and outward a projection is fractured off with the distal fragment, which prevents slipping medial-ward. Then the alignment of toe is corrected. A splint is worn two weeks with a metatarsal plate.

The author does not claim originality for the principles used in this operation.

ROENTGENOLOGY

By C. M. Hamilton, M.D., and H. M. King, M.D.
Doctors Building, Nashville

Irradiation and Pregnancy. Douglas P. Murphy, M.D., Philadelphia. Editorial from Radiology, May, 1931.

"Does maternal pelvic radium or roentgen irradiation injure the health or development of the next generation?" has been asked since it was found that radiation would modify ovarian function. Permanent damage to ova following temporary sterility is also considered. Fertilization of these ova may give rise to defective children. Embryonic tissue is especially sensitive to radiation. Serious damage may result from treatment of pregnant women.

An investigation became necessary since so many reports of defective children following irradiation to mothers began to appear in literature. Many women are being treated with sub-sterilizing exposures. Detailed research was necessary to determine the relationship of child injury to maternal therapy.

Large quantities of clinical material were collected and a thorough search of the literature was made. Seventeen hundred inquiries were sent to leading gynecologists and radiologists in this country and abroad. Careful analysis of the data was made for birth-frequency of defective children. Personal letters were also sent to each observer of an unhealthy child. Some personal observations were included.

The study was made with reference to the health of children born after the use of radiation therapy. The influence of radiographic exposure was not investigated. One observer reported a child as being a "cross between a Mongolian idiot and a cretin" following diagnostic x-ray exposure. Since this is the only case of a birth of a defective child following diagnostic exposure, it is reasonable to assume that such exposures are harmless during pregnancy.

The reports dealing with therapeutic radiation are divided into two groups: (1) children irradiated in uetero, and (2) those conceived after maternal treatment.

Children conceived after maternal treatment are unharmed. This is shown by clinical and experimental evidence.

Whereas nearly one-third of the 76 cases receiving irradiation while in utero showed retarded development, most of them were microcephalic and there was a uniformity of lesions suggesting a common cause.

In any cases, pregnancy was overlooked at the time of treatment. In a few, pregnancy was not thought to be a contraindication to treatment. The health of the mother was considered more important than that of the child in other cases.

In fourteen cases, conception took place between serial exposures of x-ray treatments. Amenorrhea was thought to be due to the treatment and subsequent heavy doses were given to the embryo without causing death or abortion.

Personal observation: Mother gave birth to three healthy children. The fourth pregnancy was complicated by hemorrhage. She was given several exposures of x-ray therapy for submucous myoma. No curettage was made. The child at five years of age is microcephalic and has the mental age of two years. Two years later, the mother gave birth to a normal child.

These observations led to the following conclusions: Preconception maternal pelvic irradiation does not interfere with health or development of subsequent children. No exceptions have occurred. Diagnostic x-ray exposures are harmless during pregnancy. It is best to delay the exposure as long as possible and use the minimum amount. Therapeutic irradiation is very likely to cause harm. Curettage should precede the use of irradiation in women of child bearing age. Treatment of pregnant women may be thus avoided. Precaution should be taken to avoid conception between treatments in a series. Exposure to fetus is reason for termination of pregnancy. If treatment is necessary in early pregnancy, the uterus should be emptied first. If pregnancy is advanced, premature labor should be induced.

SURGERY — GENERAL AND ABDOMINAL

By John L. Dies, M.D.
1213 Exchange Building, Memphis

The Results of Treatment of Cancer of the Breast. Schreiner, Bernard F. Annals of Surgery, 93: 269-277, January, 1931.

The author separates cases of breast cancer into primary carcinoma and postoperative recurrent carcinoma. The primary cases are divided into three groups. Group 1 consists of those cases in which the growth is confined to the breast and having no metastases, as evidenced by clinical and radiographic examinations, as well as, in the operative cases, by histological examination. In Group II are all carcinomas of the breast with definite metastases in the axilla, or ulceration of the breast which is fixed to the pectoral muscles, and showing without doubt involvement of the skin lymphatics. In Group III are the tumors of the breast, with or without axillary involvement, but with definite widespread metastases, as in the supraclavicular region, mediastinal or disseminated metastases. The recurring carcinomas of the breast are divided, as accurately as possible, into two groups. In Group I are those with local recurrence only; in Group II those with or without local recurrence but with disseminated metastases.

There are 480 cases of carcinoma of the breast in the series reported. Of these 480 cases, 283 were primary and were divided as follows: In Group I were 71 cases, 52 of which were treated by radical operation and radiation, and 19 treated by radiation alone. In Group II there were 132 cases, 53 of which were treated by radical operation and radiation, and 70 by radiation alone. Most of these 79 cases were, for one or more reasons, considered not suitable for operation. In Group III there were 80 cases. These were definitely inoperable and were treated by radiation alone. Of the 480 cases, 197 were recurrent. These were divided as follows: In Group I, 31 cases with local recurrence only, treated by radiation alone, and 166 cases in Group II, local recurrence and disseminated metastases, which were treated by radiation alone.

The youngest patient was 24, the oldest 90 years of age. Fifty-eight per cent were between 40 and 60 years old. These 480 patients were females, 388 of them being married, and 92 single. The disease was primary in the right breast in 214 cases, in the left breasts 231 cases; in 35 instances both breasts were involved, 21 of these being postoperative, recurring cases of Group II. A history of cancer in the family was reported by 110 of these women. The blood Wassermann reaction was positive in 38 of these patients. Eighty-nine of these women gave a history of injury, either in the form of a blow, a kick, fall or bruise, which they thought might have contributed to, or been the cause of, their trouble. Sixty-four per cent of these patients gave a history of less than one year's duration at the time of admission, 77 per cent of less than two year's duration. One hundred and forty-three of these women had never been pregnant, the other 337 gave a history of from one to nine pregnancies.

Prior to 1920 these patients were treated with low voltage x-rays in divided doses, 2½ millimeters aluminum filter, 100,000 volts, 5 milliamperes, time factors varying from five to fifteen minutes at 20 to 30 centimeters distance. Treatment was repeated sometimes at one week intervals or two weeks intervals over a period of from 1 to 3 years, with intervals of rest depending on the condition of the skin.

From 1920 to 1925 the patients were treated by means of high voltage x-rays with varying technic as to distance and number of fields applied. During the years of 1920, 1921 and 1922, cross-firing and massive doses were tried and resulted in much depression, x-ray sickness, and on the whole did not seem to justify the procedure that was then carried out. From 1923 to 1925, divided high voltage x-rays were used which seemed more beneficial to the patients. The method was to divide a known quantity of x-rays over a period of from a week to twelve days, allowing for time elapsed between treatments, the desire being to administer from 120 to 150 per cent on the skin. The factors of high voltage x-rays were: 200,000 volts, 8 to 30 milliamperes, 0.5 millimeter copper, 1 millimeter aluminum filter, size of field 10 by 15 up to 20 by 20 centimeters, time factor depending on milliaperage and distance.

In some cases the implantation of radium emanation in glass seeds was resorted to. In a few cases radium packs were substitutes for high voltage x-rays, the factors being 6 centimeters' distance, 2 millimeters of brass, 1 millimeter of aluminum, 1 centimeter of rubber, for from 6,000 to 8,000 millicurie hours per field.

In the cases which were operated, the radical operation according to the method of Willy Meyer was carried out.

Results were as follows: In primary operable Group I cases, treated by radical operation and radiation, 65 per cent of those available for study were clinically well five years or more; of those treated by radiation alone, 28 per cent remained clinically well five years or more.

In primary Group II cases, treated by radical operation and radiation, 23 per cent have remained clinically well five years or more; of those treated by radiation alone (which were inoperable), 1.2 per cent remained clinically well five years or more.

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The primary Group III cases, treated by radiation alone, have yielded palliations only.

The recurring cases, Group I and Group II, treated by radiation alone, have yielded palliations only.

The author is convinced that irradiation is of distinct value in the retardation of the growth and the amelioration of suffering and in the prolongation of life.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,
and F. K. Garvey, M.D.
Medical Building, Knoxville

Gastric Syphilis. Paul O'Leary, M.D. American Journal of Surgery, February, 1931.

Diagnosis of syphilis of the stomach can be made in one of two ways. First: By demonstration of the spirochete in the gastric lesion. Second: Emperically, in amelioration of the gastric symptoms by specific treatment. The evidence of gastric lesions in the 25,000 syphiltic patients studied at the Mayo Clinic was less than .3 per cent. The average age was 35 years, and the duration of symptoms, two years. Achylia was present in 35% of the cases, palpable masses and gastric retention were infrequent. Roentnographic evidence was that of schirrus carcinoma. Steady but progressive decrease in gastric capacity was present, even though a good appetite was maintained. Vomiting nearly always gave immediate relief from pain. O'Leary believes that the gastroentrologist makes the diagnosis more often than the roentgenologist. He analyzed 151 cases in whom gastric lesions were demonstrated and either had syphilis or were suspected of having it. Cases of acute syphilis with gastric symptoms, and those who had a concomitant duodenal ulcer and syphilis were excluded. He observed these cases from two to nine years. Thirty-six of these patients had syphilis and gastric cancer, 17 had syphilis and simple gastric ulcer, 9 could not be traced, and in 89 the diagnosis of gastric syphilis was made.

The following criteria for diagnosis were demanded. First: Therapeutic test (improvement after antiluetic treatment and observation for two years). Second: Exclusion of cancer and simple ulcer by biopsy. Third: X-ray evidence of a gastric lesion. Fourth: Clinical evidence of gastric syphilis. He believes that the therapeutic test and prolonged observation (two years) is the most practical means of arriving at a diagnosis. Attention is called to the difficulty in the differential diagnosis from cancer. His therapeutic test entails the administration of .2 to .5 grams of neo at weekly intervals together with mercury either by inunctions or intramuscularly. The type of lesion, the situation and duration will determine the proper period of the test. Single or multiple gummas respond more quickly than any other lesion and will show definite response in two weeks. The fibrotic or hour glass lesions are the more resistant. He calls attention to the danger of misinterpreting the psychic effect from treatment often seen in gastric cancer. Hemorrhage in gastric syphilis is most uncommon while the patient is undergoing treatment. If therapeutic response is satisfactory, mecrcury and neo should be given in a course of six doses at four-month periods.

Of the 81 patients treated, 37 per cent are clinically cured, 27 per cent improved, and 29 per cent unchanged, 7 per cent are dead, 8 were lost sight of. Those unimproved showed a small fibrotic stomach. In this type neither antiluetic treatment or operation offers relief.

There were 36 patients in this series who had gastric cancer and some from of syphilis. There were 19 patients with gastric syphilides, upon whom a biopsy was made and the spirochaete was not found in any. The pathologic report on nine was postive and in four probably syphilis. Once the report was that of inflammatory tissue. In a study of 38 cases of limitis plastica, manifestations of small cell carcinoma was present in all.

X-ray reports of 89 cases were correct in only 44 cases. Thirty-two were diagnosed as cancer. Spinal fluids were positive in 11 per cent and 27 per cent had other clinical signs of syphilis. Seventy-three had positive blood Wassermans as the only evidence of lues except the x-ray pictures. Six had negative Wassermans who were found to have syphilis. Spontaneous involution or antiluetic treatment may be responsible for the fibrotic or leather-bottle stomach.

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THE ADVANTAGES OF A SO-CALLED SIXTH SENSE IN THE TREATMENT OF INDUSTRIAL TRAUMATIC INJURIES*

S. R. Miller, M.D., Knoxville

THIS is an epoch of specialization. Industrial Surgery is one of the specialties.

The family doctor, and the eminent surgeon, is oftentimes not an efficient traumatic surgeon. More than anatomical and pathological knowledge, and surgical skill, is necessary for the most successful treatment of industrial injury cases. Compensation laws and industrial requirements have added much responsibility to the attending surgeon. He is often both the surgeon and the judge in compensation adjustment.

To be most efficient he must have good professional knowledge and extensive experience and special training. He must know human nature and have psychological insight not essential in general practice, or other specialties. He must be ever with an open mind, without prejudices or fear. He must know that the human mind is not infallible. He must listen to each minor complaint, consider every part of the history, and weigh each well, but he must form his own unbiased opinion and outline his own best treatment.

To do all these things in the most efficient manner requires judgment. When the physiologists and anatomists located and named the five special senses, a sixth was also needed. It could not be added for two principal reasons. First, no nerve center could be located, for the reason that it is a mental and education process, rather than a local nerve function. Second, it is almost absent in many individuals. However, it should, when present, be rated with the five special senses through which we receive all external impressions. It is the yes-no consciousness. Many individuals think yes, when it is no, and vice versa.

Someone has said a man's services are only worth a dollar and a half per day from his eyes down, and it is from his eyes up that makes his services worth more than a dollar and a half a day.

We can take the analogy further and say that all other things being equal, good and true judgment renders one much more valuable in any line of work. Whether the invidual be uneducated, educated or super-educated, judgment is the determining quality that makes for success or failure. The outstanding men and women of the world have been those of superior judgment, at least in one or more important phases of life. I would not depreciate education, knowledge and superior skill, but without judgment, the individual cannot attain the highest results.

In recent years I had an intimate friend who was a very successful lawyer. He won the large majority of his cases, and some possibly not justly, but all legally. He told me the secret of his success. In the careful study of his case he determined the legal points upon which the claim rested, and the actual facts, and such false facts as could be brought into the trial by the opposing lawyer. He used every opportunity to engage the attention of the opposing counsel and witnesses—particularly those of the opposing side, on unimportant facts and application of laws secondary to more important ones, but always developed the true fact and law as applied to the particular case, but in as simple and casual manner as possible, but clearly enough to make it of positive record of the case. Thus he demonstrated superior judgment, and the opposing side used its ammunition in shooting into the air, instead of at the fixed mark.

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*Chairman's Address. Read before Railway Surgical Section of the Tennessee State Medical Association, April 14, 15, 16, Knoxville, Tenn.

In almost every field of endeavor there is opportunity for superior judgment. It is present in every successful man from the bottom to the top of all workers and executives. The successful financier is the one who has judgment as to when to buy or to sell.

All medical men have frequent opportunity for use of good judgment. It will lead him, and oftentimes directly, to a correct diagnosis and efficient treatment. One with inferior judgment may consume much time in unnecessary examinations and various laboratory tests, and then center his opinion and treatment on some secondary condition. In the earlier days of empiricism, only symptoms were treated rather than diseases.

The broadest and most difficult field for the use of judgment is industrial and insurance work. In a considerable number of these cases the psychological features are of paramount importance.

Some individuals, when injured in the routine of their work, or in auto or train accidents, or various other ways, think, perhaps subconsciously, that they are heroes. The solicitation of family and others, and an unusual amount of nursing and care appeals to the psychological complex of many.

Some of these cases expect substantial compensation, or large payment of damages, and occasionally have accident insurance policies that will pay them as much or more than their regular salary or wages, and double indemnity while confined in hospital, and many such magnify their injuries and prolong their disability period. The surgeon should carefully consider the patient's mental attitude, as well as his injuries, but should not be a party to the claimant's imposition upon the employer or insurance company, or any others held responsible for the injury. Likewise, occasionally the employer, or insurer, may minimize an injury, or claim it to be malingering, especially when there are no objective symptoms, but in such cases the surgeon must give the patient the benefit of reasonable doubt, and not be a party to an injustice to the injured.

Again I repeat, the efficient surgeon must be a man of superior judgment, and study all facts and probabilities in each case and deal wisely and justly in every case, without fear or favor.

The doctors, however, are not the only individuals in need of good judgment. The people themselves are the greatest losers for want of judgment. In fact, the great showman, Barnum, whose great success attested his good judgment, said: "The American people like to be fooled." All kinds of devices, medicine and fakes have been sold to ignorant, inexperienced people, who are without judgment to detect the palpable fraud. Last year in the laboratory of Colaborative Investigation at Washington, more than four hundred of such frauds were investigated and tested, for the purpose of facts, and to furnish legal proof of fraud. This laboratory is operated jointly by the United States Department of Agriculture and the Postoffice Department. Thus more than one fraud per day for the year was forbidden the use of the United States mail, and letters addressed to such were returned to the sender, marked "Fraudulent," and it is reported the American people were saved in two years $20,000,000. There will probably always be such frauds for the gullible who do not have this Sixth Sense—viz: Judgment. It will require several generations of experience to change this. Education alone will not do it, for the educated are about as vulnerable as the uneducated.

Much is now being said of the cost of medical care. The Committee on the cost of Medical Care is composed of fifty eminent students and workers in health matters, twenty-four of whom are Doctors of Medicine and three Doctors of Dentistry, and two Registered Nurses.

The study covers a period of five years, with an expense of several hundred thousand dollars. The study thus far seems to show that the cost of the service of the doctor is not a major part. Also the reports which I have examined show the doctor as not overpaid, with probably a few notable exceptions. The average fees of this State will probably compare favorably as to their smallness with any other part of the country. Some, however, can yet reduce cost of illness by the use of good judgment and thus avoiding unnecessary laboratory or technical examinations.

Such examinations are often very necessary, and the patient, whether wealthy or poor, readily agrees to the expensive and sometimes numerous examinations, often with no thought of pay-day. Good diagnostic judgment on the part of the physician and surgeon will often render some examinations unnecessary. On account of varied and sometimes numerous examinations, occasionally revealing some unexpected condition or complication, causes some doctors to make such examinations a routine, to detect the very occasional one found. That materially increases the average expense of medical care, and when paid to the hospital, or laboratory, as is usually done while in the hospital, delays the payment of the fee of the attending doctor, and not infrequently consumes their all, and there is nothing left for the doctor. Good judgment on the part of the doctor in explaining the probably unnecessary use of repeated and expensive examinations and consultations, and advising the patient and friends in the choice of the least expensive hospital care necessary for proper care, can reduce some of medical care.

The attending doctor usually knows as well or better than any other the patient's social, financial and physical condition and should use his judgment in advising the amount of hospital expense to be incurred by the patient, and cheaper rooms or wards and nursing should sometimes be advised.

Of course, the hypercritical may not be satisfied to use good judgment which is not infallible. Emerson says: "If all possible objections must first be overcome, nothing will ever be accomplished," and so, if all conditions and complications must be definitely diagnosed, examinations and tests ad infinitum will be required, and will consume much time and add much expense.

Some x-ray examinations are unnecessary. Some simple fractures of ribs are a good example of such. The superficial character easily shows no deformity, and bone crepitation is a pathognomonic symptom of fracture. The speaker has seen several good x-ray films of the ribs, and no evidence of fracture could be seen, but unmistakably crepitus was present. If right angle films could have been made of the chest the fractures would probably have shown.

Some simple fractures of the tibia in thin patients need no x-ray for diagnosis or treatment. The same may be said of some simple Pott's fractures, or a fractured patella, or the middle of the inferior maxilla. Simple Pott's Fracture is usually easily adjusted and rarely gives troube. A transverse fracture of the patella is easily diagnosed, and is best treated by open operation and x-ray examination is superfluous. Some fractures of the chin can best be treated by perfect alignment of the teeth, when they are present and regular in alignment.

Personally, the speaker has seen many x-rays of basilar fractures that appeared normal, but the bloody cerebro-spinal fluid and clinical picture were not only very suspicious, and often conclusive. While there are exceptions such as these, it required good judgment, or the use of the Sixth Sense.

It is just as unwise to omit some necessary examinations, or make hasty conclusions. Grave omissions, or erroneous conclusions may be easily made without good judgment.

It certainly is bad judgment to omit the prophylactic treatment of the eyes of the new born. The law requires it, and there are many cases in which the obstetrician cannot be cock-sure there is no need of it. It does no harm, and is a State statute, so why violate the law, but some good men continue to do it.

The positive and negative sides could thus be discussed indefinitely, but the elements of good or bad judgment are within the individual.

It seems some individuals early display judgment superior to their fellows. Such characteristics are observable in school and college life, and become more noticeable in early business and professional life. Such individuals are superior in dealing with the various problems of life. On the other extreme, the individual with inferior problems of life, but with poor success. They seem to do the wrong thing, or do the right thing at the wrong time. They do not seem to be able to evaluate their problems.

Fortunate indeed is the individual who has good judgment. He knows how to deal with his problems, and when to do it. Success crowns his efforts.

DEEP RADIATION THERAPY*

C. M. Hamilton, M.D., and Howard King, M.D., Nashville

THE purpose of this paper is to call attention to some of the more common uses of radiation therapy. It is also desired to bring about a closer understanding between the surgeon and radiologist in order that better results may be obtained by cooperation and by a combination of therapeutic methods. The gravity of malignant disease is such that it behooves every one to take advantage of all practical means of treatment. Certain types of pathology are more adaptable to surgery than radiation. Others are more suitable for radiation. Many conditions give better results from a combination of procedures.

Deep x-ray therapy is that form of radiation in which the hard penetrating rays are employed. The voltage varies from 140,000 to 300,000, depending upon the equipment and requirements of the disease. More than 220,000 volts are rarely ever used. Most of the soft non-penetrating rays are eliminated by filtration. Deep therapy may also be administered by the use of packs containing large quantities of radium.

Radiation has a special affinity for tissue of certain structural characteristics. This accounts for the rapid melting away of some tumors after irradiation and the complete failure in others. The more embryonic types of tissue are more sensitive to radiation than adult or mature structures. Lymphoid tissue, endothelium, epithelium and glandular structures are very sensitive. Vascularity is also favorable. The highly developed tissue, such as nerve elements, are very resistant to radiation therapy. Fibrous tumors respond fairly well. Conversely, fibrosis inhibits the action of radiation when it is associated with malignancy. A carcinoma surrounded by fibrous tissue has a poor blood supply and requires caustic radiation. Fat also interferes with blood supply and is a hindrance to radiation. As a general rule, the more malignant the condition the better it is suited for radiation. The more malignant tumors are vascular, grow rapidly, and contain embryonic and glandular cells. Two exceptions are outstanding. One is the melanotic sarcoma, which is very malignant. Its growth is not impeded very much by radiation. The pigment may offer some resistance. On the other hand, basal cell epitheliomata, such as occur on the face, are not very malignant but clear up very rapidly from x-ray therapy. The transitional cell tumors of the nose, pharynx and floor of the mouth respond beautifully to radiation. They metastasize so rapidly that surgery is useless. The slow growing sclerotic neoplasms are less sensitive to radiation and are more amenable to surgical measures. There is still a medium type, such as metastatic cervical lymph glands and carcinoma of the breast, in which both radiation and extensive surgical procedure are indicated.

Cases with Hodgkins disease or either of the leukemias are dependent almost solely upon radiation for relief. Neither condition can be permanently cured, but much

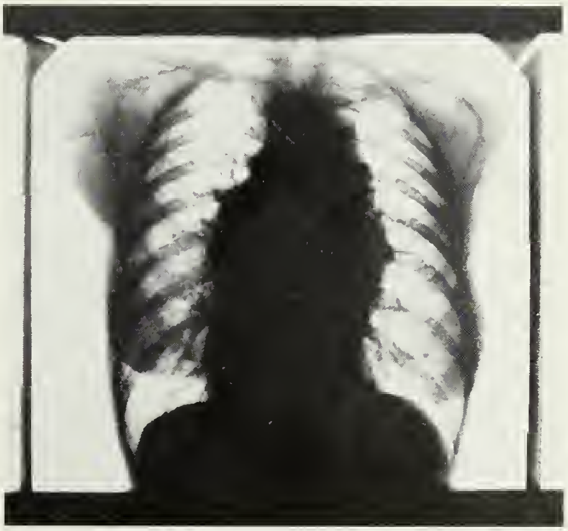

Figure No. 1
Hodgkins Disease Before Treatment.

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*Read before the Tennessee State Medical Association, Knoxville, April 14-16, 1931.

benefit can be derived. Life can be prolonged five to ten years by repeated small doses of x-ray therapy over the areas of adenopathy in Hodgkins disease. The glandular enlargements may be confined to the mediastinal and cervical regions. In that instance only these areas should be treated. If the general glandular system is involved the application should be to the principal nodes. Radiation is indicated in both lymphatic and myeloid types of leukemia. Repeated small applications until a reduction in blood count is obtained is sufficient. Many authorities think a blood count of 20,000 or lower is an indication to suspend therapy until another rise in leukocytosis occurs. One series of application may give the desired results. Patients who have been under treatment two or three years can usually detect a change in leukocytosis by the symptoms of listlessness, tired feeling, and shortness of breath. In the lymphatic cases the therapy should be given over the spleen and enlarged lymph glands. In the myelogenous type, best results are obtained by irradiating the spleen and long bones. Some authorities recommend excision of the spleen as soon as it has returned to its approximate normal size.

There are numerous neoplasms of the chest and mediastinum which are utterly hopeless from a surgical standpoint that may be relieved by radiation. Cases with generalized lymphosarcomatosis can be made more comfortable and given prolongation of life in many instances. A large percentage of cancerous lesions of the chest are metastatic. However, a carcinoma occasionally springs from the epithelial lining of the bronchial tree. Sarcoma may be primary in the lung or mediastinum. In all intrathoracic malignancies high voltage radiation is the method of choice.

Tuberculous adenitis belongs to the domain of the surgeon, internist, and radiotherapist. Radiotherapy in small repeated doses over the glands will cause complete regression in most instances within six or eight months. This should be supplemented by the usual care employed in the treatment of tuberculosis. Troublesome sinus drainage which frequently follows surgery can be avoided.

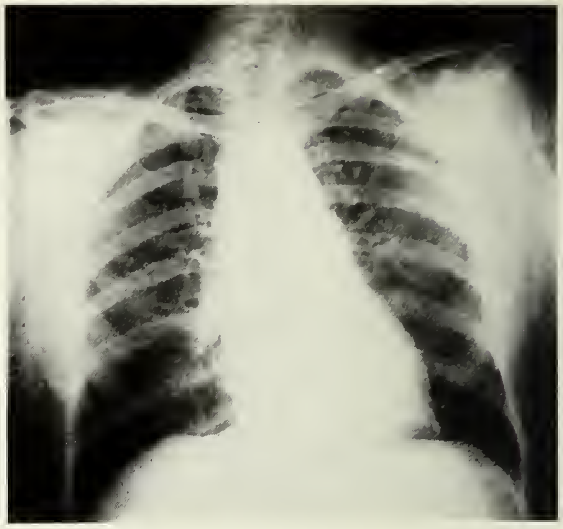

Figure No. 2
Hodgkins Disease (Fig. 1) After Treatment.

Hypertrophy of the thymic gland is frequently encountered. It has been estimated to occur in 40 per cent of infants. Most cases are symptomless and need no treatment. Very few conditions require more skill and sound judgment to determine the necessity for treatment. Success depends upon careful observation and repeated examination. Unless pressure is exerted upon the trachea, blood vessels, or recurrent laryngeal nerve, therapy is not indicated. A careful history and observation should always supplement radiographic evidence of thymic hypertrophy. Some of the most expansive glands laterally are harmless. On the other hand, a narrow thick gland may be exceedingly dangerous. Both sagittal and lateral radiograms are essential for complete examination. Cases with symptoms of enlarged thymus that have radiographic evidence of distortion, compression, or buckling of the trachea should receive irradiation.

Treatment should be given in small doses and very cautiously. The amount of therapy should be governed by subsequent symptoms. It should be suspended as soon as relief is obtained. Large doses or repeated unnecessary small doses may cause harmful results. One or two applications are sufficient in most cases. Phenomenal results in extreme cases may be obtained within a few hours.

There are two conditions in which a combination of radiation and surgery are needed. One is metastatic cancer of the cervical glands and the other is cancer of the breast. In both of these conditions the prognosis is alarming, even after the best means have been exhausted. In case of breast cancer a complete irradiation, including the axilla, supraclavicular region, and posterior and anterior chest walls, is necessary. Rays from moderately low voltage seem to give better results than those from extremely high voltage. In fact, intensive high voltage therapy appears to promote metastasis rather than to prevent it. The harmful effect on the blood lowers the patient's resistance and may do more harm than good. The heart and large vessels are in the field of cross fire attack. There is also less damage to the lung structure from moderate radiation. The question of whether radiation should precede or follow excision of the breast is debatable and unsettled.

Portmann of the Cleveland Clinic reports two series of cases. One series was operated upon prior to 1924 and the other since that time. In each series, one group was treated by surgery and another by surgery and postoperative radiation. Very little difference was noted in the three-year results in the first series. However, only 23.1 per cent of the surgical cases survived after five years, compared to 38.5 per cent for those receiving both surgery and radiation. Since 1924 a series of 111 cases has been observed. Of 50 operative cases, 24 per cent had recurrence the first year, whereas only 18 per cent of the 61 receiving postoperative radiation had metastasis or recurrence. Within the three-year postoperative period, 36 per cent of cases treated by operation had recurrence or metastasis. For the same period only 21.3 per cent had evidence of malignancy in the group receiving postoperative radiation. The wide variation of results in the two series is probably explained by improvement in technique for postoperative radiation since 1924. Nevertheless, both series illustrate the importance of supplemental radiation.

As a general rule, uterine fibroids are surgical conditions. However, there is a field of usefulness for radiation therapy. Unnecessary surgical risks can be avoided by this measure. William Neill, Jr., of Baltimore, says that radiation is indicated in the following conditions: (1) small movable tumors below the umbilical level; (2) selected large tumors; (3) all cases that are unsuitable for surgery. The following results may be obtained: (a) check of menstruation; (b) reduction in size of tumor; (c) complete disappearance of tumor in many instances; and (d) cessation of menses followed by a return in young individuals.

Radiotherapy is a comparatively safe procedure. The results are obtained by action on both the uterus and ovaries. Production of menapause is essential for best results. An accurate diagnosis is more important than in cases for operative procedure. The response is variable. Some subside prior to the onset of amenorrhea, while others continue to reduce for years.

From 1915 to 1925 there were 650 reported cases treated at the Howard A. Kelly Hospital. Of this number, 350 had immediate cessation in menses. Others menstruated from one to four times. In 16 the menses returned in two to five years with-

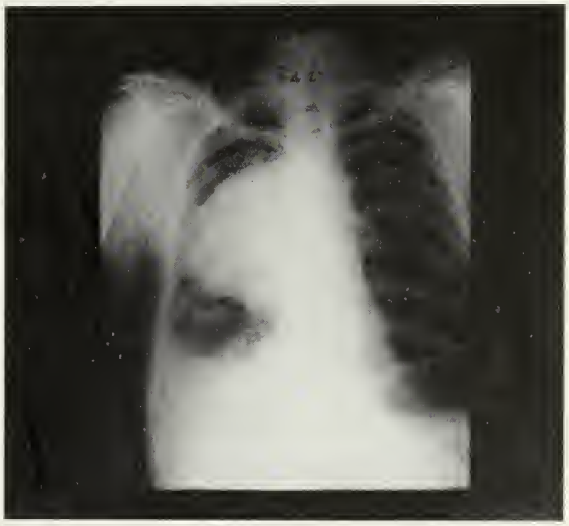

Figure No. 3
Metastatic Teratoma Before Treatment.

out a reappearance of the tumor. Two cases gave birth to healthy children. Hot flushes occurred for six months to three years in most cases. It is less noticeable than in normal menapause. Of this group, only 43 had to have a second application. Radium was used in most instances.

The greatest use of radiation in pelvic conditions is to control uterine bleeding. Cases that are anaemic and poor surgical risks can be put in a better physical condition by control of the hemorrhage and by reduction in the size of the tumor. Selected non-malignant cases with irregular or excessive bleeding in the premenapausal period are ideal for radiation. Simple hyperplasia of the endometrium will atrophy and give relief within sixty to ninety days. A long drawn out menapause can be obviated without grave danger or confinement.

Malignancy of the female pelvic organs is divided fairly definitely into surgical and radiotherapeutic classes. Cancer of the fundus of the uterus is clearly a surgical condition. Moreover, carcinoma of the cervix responds more favorably to local radium therapy and external x-ray treatment. Bowen of the Mayo Clinic reports a five-year cure in 75 per cent of the operable and 21.49 per cent in inoperable cases.

Cases with extensive carcinoma of the cervix or pelvic infection should be treated cautiously. For the extensive carcinoma it is best to give several small doses of radiation at frequent intervals. In case of pelvic infection, x-ray therapy is not so harmful as a local application of radium. Uremia may result from radiation causing edema of ureters in an inflammatory pelvis. This is especially true in cases with cystitis. Deep x-ray therapy may cause an acidosis within a few hours after the administration. Extreme nausea and vomiting are not uncommon. Very few permanent undesirable sequelae result from x-ray therapy. However, a few may occur from radium therapy of the cervix. Trophic ulcers of the rectum and bladder and stenosis of the cervical canal are the most frequent. Fistulae may extend into the rectum or bladder.

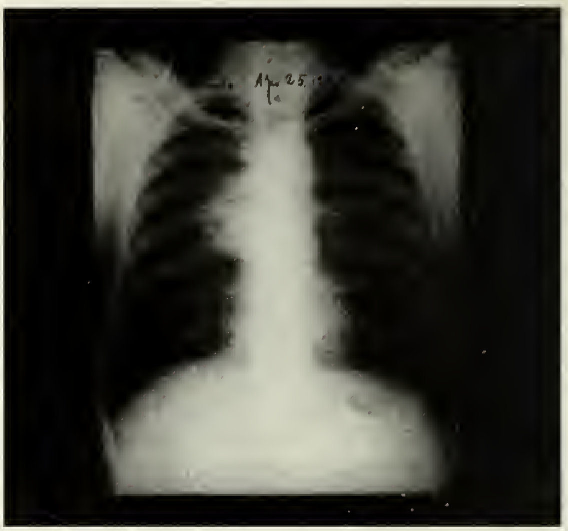

FIGURE NO. 4
Metastatic Teratoma (Fig. 3) After Treatment.

In conclusion, a few points may be reemphasized. Intrathoracic tumors, Hodgkins disease, extensive sarcomatosis, thymic enlargements and carcinoma of the cervix are diseases that are benefitted most by radiation. Tuberculous adenitis and leukemia probably respond to radiation better than to other measures. Isolated metastatic malignant nodes and cancer of the breast have a better prognosis from a combination of methods.

DISCUSSION

DR. H. H. M'CAMPBELL (Knoxville): Mr. President and Gentlemen: I wish to thank Dr. Hamilton for bringing this subject to our attention. It seems to be necessary ever so often to call to the attention, particularly of surgeons, and others too, that there are other and perhaps, in some cases, better ways of doing things. I think Dr. Hamilton has been extremely conservative in his conclusions and in his advice. However, in things which he has talked about largely the end results, as a rule, are not too good under any circumstances; therefore, it behooves us to be particularly conservative when we are up against competition, we might say.

He called your attention to Hodgkin's disease and leukemia and linked them together, and they are more or less closely related. All these cases temporarily improve, perhaps for one to three or four years, but my expeience has been that ultimately they no longer respond to radiation and then die in a very short time.

I have only one or two cases living now, the last case being about a year and a half old.

In regard to chest metastases, my experience has been unfortunate. In fact, metastases in any part of the body are much more resistant to radiation than are the primary growths. Particularly does that seem to be true in the chest. But that being the only thing that can be done and usually since it prolongs the life of the patient for at least two or three months and makes him relatively comfortable, it is the only thing to do.

Dr. Hamilton, I think, is particularly conservative in the treatment of fibroids. I do not think that fibroids are primarily a surgical condition. There is not one of you, I dare say, who either in his own experience or in his acquaintance does not know of some case in which a hysterectomy has been done, and about the tenth or twelfth or fourteenth day the patient suddenly departs. That is no fault of the surgeon, but it is the fault of the disease. In view of the fact that such a large number of cases can be controlled by irradiation, it seems to me that that should be done first. In the fibrotic uteri and small or medium sized fibroids, I think that always radiation should be used first. As I say, a large majority of the cases will be controlled without danger of immediate dissolution of the patient.

I think also that tubercular glands are not primarily a surgical condition. In view of the fact that such a large percentage of tubercular glands can be controlled absolutely by radiation without leaving a scar, without any danger of sepsis or fistulae or otherwise, I think they should always be irradiated.

Those of you who have been around with us for a long time know, of course, that tubercular glands are not anything like as prevalent as they were twenty or thirty years ago, but we do see them not infrequently.

They become a surgical condition, of course, if suppuration is present, but even then the disease can be very much limited and the process of healing accelerated by the use of radiation.

Dr. Hamilton referred to acidosis occurring. That is a thing that we have, and a very distressing thing to the patient at times. The peculiar thing is that the patient may have one treatment without any evidence of acidosis, and the very next treatment he will have a rather severe case. We have found recently that glucose intravenously, either before the treatment or immediately afterwards, as a rule, controls all the symptoms of acidosis.

The radiologist, particularly in the use of radium, is often criticized very unjustly for the development of fistulae either of the bladder or the rectum. There are perhaps two or three reasons why these fistulae develop, and one is that perhaps bad judgment was used in the placing of the radium, or overdosage; and another is that often the patient's life is prolonged beyond the time it would have been ordinarily, and in carcinoma involving the bladder wall or the rectum the radium will naturally break down, it being already diseased. If the patient had lived long enough without the radiation, the same thing probably would have occurred. So in some cases it is perhaps a compliment to the treatment rather than a criticism.

Dr. Hamilton showed on the slide several cases of metastatic teratoma. I remember one case that I had a number of years ago of teratoma of an undescended testicle. At least, that was the diagnosis. It was as large as a large grapefruit in a man about sixty years of age. He had heavy x-ray dosage and the mass disappeared entirely, so far as palpation was concerned. Three years later he was still living and back at his work as a practicing physician. What finally became of him I do not know; he may still be living.

There are a great many cases in which radiation is an adjunct to the surgeon, and a great many other cases in which the surgeon may be an adjunct to the radiologist. They should work in harmony with each other. But there are certain types of cases that primarily, in my judgment, are cases for the radiologist and not for the surgeon.

DR. L. E. BURCH (Nashville): I have listened to Dr. Hamilton with a great deal of interest, and I think he has brought before us not only an important paper, and one that is most conservative.

I am going to advise the use of radium and x-ray for a number of conditions that he has even failed to mention. First, deep x-ray is a great adjunct in Banti's disease preliminary to operation. Dr. Hamilton is treating a case of Banti's for me at the present time, and it is remarkable how x-ray will bring down the volume of the spleen, decrease it in size, and make the operation much less formidable.

I am also going to advise the use of x-ray in those cases with large fibroids that are in a des-

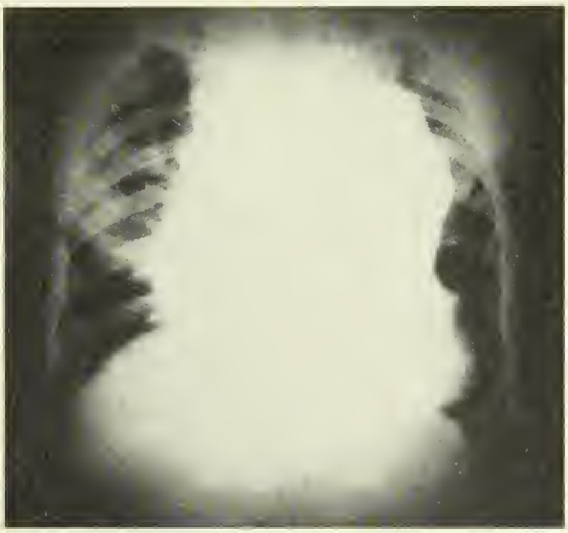

FIGURE NO. 5
Probable Primary Sarcoma of Mediastinum, Before Treatment.

perate condition and with inflammatory complications. You will find that if you will use the x-ray, give them multiple blood transfusions, and send them home for a few months, you can bring them back and operate on them with safety, and occasionally an operation will not be necessary.

In regard to the use of radium or x-ray on the vaginal wall, especially where it is in the neighborhood of the bladder or rectum, I would strongly advise the use of radium emanations and not radium. In that way you will avoid the likelihood of fistula.

In regard to cancer of the cervix, I will go strong and say radium in 95 to 98 per cent of the cases, followed by deep x-ray therapy. Cancer of the body of the uterus should first be treated by radium, then an operation, and then followed by deep x-ray therapy. Hyperplasia of the uterus in women around the age of menopause should invariably be treated by radium.

Where the radiologist gets in trouble is in not making biopsies. He may work in conjunction with the surgeon or he may work in conjunction with the gynecologist, but you must bring another man into the team, and that one is a careful gynecological pathologist. Don't use your radium until you have made your biopsy. I have seen (not from Dr. Hamilton, understand) quite a number of cases treated with radium as cancer of the cervix where a biopsy was not made and it was nothing more than an erosion of an eversion. I have seen, on the other hand, a case treated as a hyperplasia where the bleeding continued and a biopsy was made by curettement, and it turned out to be an adenocarcinoma of the body. In treating these cases you must have teamwork, and to my mind one of the most important members of the team is the pathological laboratory of gynecology.

DR. E. T. NEWELL (Chattanooga): There is very little left to say, really, after Dr. Burch's splendid discussion. I want to say, though, that Dr. Hamilton is about the most modest radiologist that I have ever seen or heard. He claims less for his work than any other man in a similar field that I know of.

Speaking of cancer of the breast; I haven't for fifteen years removed a cancer of the breast that I haven't applied radium at the time of operation, and then followed it, as suggested by the essayist, with deep x-ray therapy over a period of three years. We have done as the essayist has suggested to do, cut down the penetration in our clinic. We think we are getting better results by this method.

We all know what Murphy said years ago; that if you have involvement in the axilla, supraclavicular glands, that all such cases, regardless of what you did would die. I have many cases, over five-year cures, who are living and well, and I attribute it to just what the essayist has said here; not to any special operative skill of mine, but to a combination of SURGERY, RADIUM AND X-RAY THERAPY.

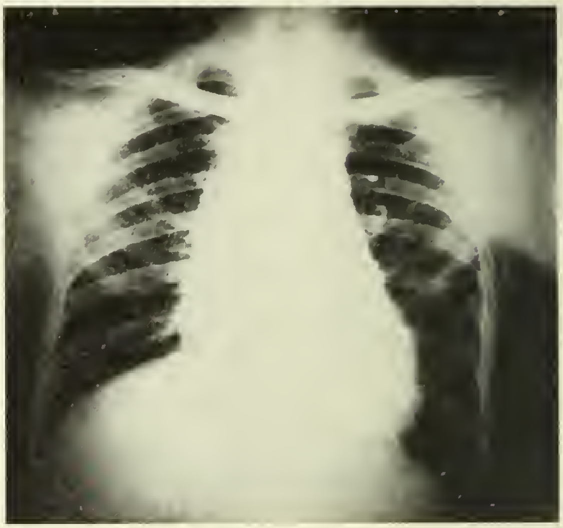

FIGURE No. 6
Probable Primary Sarcoma of Mediastinum, (Fig. 5) After Treatment.

I have been removing all breast cases with the cautery for the past five years. The radium is applied at the time of operation, and every eight hours is pulled up until it meets and comes out at the center of the wound. This is followed up with the deep x-ray therapy treatments at regular intervals.

I am not one of those surgeons who has any crow to pick with the radiologist. I am one that appreciates him and am "with him."

In regard to the treatment of tubercular glands I agree with the essayist fully.

In New York twenty and twenty-five years ago surgeons specialized in "neck surgery," taking out tubercular glands, etc. Now you seldom ever see such cases, but when you do they should have radiation and tubercular serum.

As Dr. Burch has said and as the essayist has said, the treatment of cancer of the cervix is no longer debatable. If radiation will cure inoperable cancer of the cervix, why won't it cure the operable? If you are going to apply the supreme test to radium, by sending a case after it is inoperable—and a large percentage of such cases are returned restored—why not give the patient a better chance when she is in the operable state? Apply radium needles or radium emanation in such a way, and so pack off the bladder and the rectum that there will be no pain, no fistulae or late complications.

I have very definite ideas about the treatment of fibroid tumors.

I think any fibroid tumor that is no larger than a grapefruit, that is not complicated by pyosalpinx or hydrosalpinx or appendicitis, or some other condition that would necessitate a laparotomy, to assist in getting rid of such pathology, is a 100 per cent case for radiation—preferably radium. As the essayist has further said, radiation will stop the menstrual flow in every case, it will reduce the size of the tumor in every case, and it will bring the uterus down to normal size in the majority of the cases. All of this without any morbidity and no mortality. I have been treating all such fibroid cases for sixteen years with radium in this way, and I haven't had any mortality. It is possible to lose a case by radium treatment, but I haven't lost one so far. I have lost a case, as has been referred to on this floor, and seen my confreres lose cases, where they have done hysterectomy for fibroid. You cannot cut across large blood vessels and ligate them without the formation of clots, thrombi, etc., and later on possibly emboli with this resultant pulmonary oedema and death.

Until there is better co-operation between the surgeon, radiologist and roentgenologist, the application of surgery, radium and deep therapy will not be in perfect coordination as it should be.

I want to again say that I think the essayist has been most modest, and I hope that those of you who have heard his paper will accept it as I have; as being very worth while.

DR. C. N. COWDEN (Nashville): Gentlemen: Dr. Hamilton has brought this subject to us in a very clear way. Some of the things that have been referred to here today should be emphasized a little bit further. As Dr. Newell has said, it is a specific, almost, for cancer of the cervix, but we can add a great deal to that patient where we have these large cauliflower growths almost filling up the vault of the canal, by using the cautery and taking it away with that. Even if you have to take the scissors and take the growth away, cauterize that with a dull cautery. You want to disseminate that heat just as far as you can. You don't want a white cautery; you want a dull cautery, and disseminate the heat into the tissues as far as you can. Then put the bare needles into the cervix out toward the broad ligaments, and it is unbelievable what you will get.

As to the recurrence, I have some now that are as old as six and seven years that looked like they couldn't live any length of time at all.

In regard to the treatment of fibroid tumors, with pelvic pathology, I don't believe that is a case for pelvic radiation. I believe you will light up these latent infections of the pelvis and you will get into some very serious danger, but if you haven't any pelvic pathology at all, your radium will melt these tumors away.

A few years ago, and it hasn't been very long, the procedure of a supravaginal hysterectomy for fibroid tumors was one of the accepted operations that was stated to be a classic; it was a specific. I believe there is a place for it yet, because if you have a young woman and you operate upon her, you leave or can leave enough of the ovary to keep her from going through all the unpleasant symptoms of the menopause. I don't believe you get any effect upon your fibroid tissue until you produce an amenorrhea. It is through the killing of the dysfunctioning of the ovary that you get the melting away of your tumor.

Considering the age of the patient, in the hands of the average surgeon, it is a safe procedure.

One person recently has reported 150 successive cases without a death. I believe in a young woman with a fibroid tumor, unless it is very small, you had better do the supravaginal hysterectomy and save her from all those unpleasant symptoms due to the menopause.

DR. J. J. WALLER (Oliver Springs): My experience in treating diseased conditions by radiation is somewhat limited; however, I have done some of that kind of work. I have recently been treating a case of Hodgkin's disease. I promised my patient absolutely nothing. He insisted that I make the effort, which I did, and it was wonderful for a while the amount of relief that he got. The tumors about the neck and in the mediastinum and under the arms melted down wonderfully for a while, and finally all improvement ceased and he began to go the other direction. That is my experience with it in Hodgkin's disease.

Another condition in which I have used the x-ray some (I don't remember that the speakers have touched on it very much) is certain thyroid conditions. It is claimed that about 88 per cent of exophthalmic goiter can be very well controlled by the x-ray. Surgeons dispute that to some extent. However, statistics will bear it out.

There is one advantage, too, in using the x-ray in treating exophthalmic goiter; that is, if you overdo and get a hypothyroid condition, it stages a comeback, it will swing back to some extent, which is not literally true with surgery.

Recently, within the last year, I have treated a lady from Kentucky who had been overtreated by the x-ray, showing that it will reduce the functional activity of the thyroid gland. It will do it; there is no question about it.

Another condition in which I have used it is in women near the menopause where I have a metrorrhagia that seems to depend upon no particular tumor or growth, but more upon a spongy condition of the uterus. I have gotten along very well in radiating the uterus and stopped the flow, and things have gone along very well.

As to the use of radium, I have had no personal experience except that I have observed some of my cases that have been treated by others. Skin cancers, surface cancers on children, are very beautifully controlled with radium. A baby a few weeks old was brought to me and the whole upper lip was broken down in a cancer. They thought I could cut it out and cure it, but I positively refused to do it. I got a man who had some radium and he put a few of his pegs there and in just a few hours I looked at that and it was turning white, and I think one treatment cured it. It was beautiful. The lip has well filled out now and you can hardly tell that there was any trouble there.

Another child had a growth here on the temple that was evidently malignant and a similar result was gotten there.

I had a case of cancer of the rectum which I referred to a doctor here in Knoxville for radium treatment. The effect of the first treatment was wonderful. The old lady got great results, but not cure, and it seemed the subsequent treatment by the radium did no good at all and she finally died.

The crowning point I want to make is this: Prostatic cancer. Two or three years ago I had a cousin who went down with cancer of the prostate. He refused to take treatment. Two or three weeks ago his brother came to me and I grew very suspicious on first examination and called for a consultation either to confirm or reject my opinion. The consultant said it was cancer. I don't know of anybody more competent to treat that condition than Kelley's Institution at Baltimore. I wrote there, and I got a letter from them, past masters in these things, and they say they have never yet cured a cancer of the prostate with radium. Anyone who attempts to use these measures, either radium or x-ray, is dealing with a sharp knife. It is like the nigger, it catches us comin' and goin'.

If you give an overdose and burn the patient you are generally looking a lawsuit right square in the face.

CLOSING DISCUSSION

DR. C. M. HAMILTON (Nashville): There is not a great deal to add, except to thank the gentlemen for their very liberal discussion.

Personally, x-ray therapy is preferable to radium therapy for the treatment of fibroids. It is my belief that the greatest therapeutic effect is by the action on the ovary. However, results are obtained by the action on both the ovary and the fibroid. X-ray therapy should give a greater proportion of radiation to the ovaries than radium, since the therapeutic effect of radium will penetrate only about two and a half inches.

It has been mentioned that the treatment of thyroid conditions was omitted. I have had only a limited experience in the treatment of goitre. A very few selected cases that were considered inoperable by other physicians have been treated with x-ray therapy. It is my opinion that the simple thyroid case is surgical.

OPTIMISTIC OUTLOOK IN THE TREATMENT OF CHRONIC ARTHRITIS*

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TODAY, no other disease challenges to a greater degree the most earnest thoughts of the medical profession than does chronic arthritis. In the past, arthritis has seemed a hopeless problem; today, however, it is ready to take its place with those chronic affections which are amenable to treatment. Chronic arthritis is now a curable disease. Pemberton has said that at least 75 per cent of the chronic arthritics can be cured "under properly controlled and dispassionate conditions of therapy."

The large number of "sure cures" of arthritis which have been so extensively advertised is evidence of the medical profession's failure in the treatment of this disease. It has been estimated that in Germany alone there are six thousand "cures" for rheumatism. Seventy-five per cent of the patients with arthritis have received treatment at the hands of various cults.

Chronic arthritis is one of the oldest diseases known. Definite evidence has been found of its existence fifteen million years ago in the Mesozoic era or the age of reptiles, long before the advent of man. Later, in the rough stone age, arthritis was present among the earliest members of the human race.

From an economic standpoint, the problem of arthritis is as important as that of tuberculosis, cancer, or syphilis. One-sixth of the entire sum expended by the National Insurance Acts in England, or about two million pounds per year, is used for disabilities classified as "rheumatic". In Massachusetts, arthritis disables twice as many people as does tuberculosis, and in Berlin it disables three or four times more than does tuberculosis.

In 1928 the American Committee on Arthritis urged that the medical profession adopt a very simple and practical classification for the different types of this disease. The members of the committee suggested that chronic arthritis be divided into two great groups: (1) the atrophic and (2) the hypertrophic. The atrophic form was to include chronic infectious arthritis, or the arthritis deformans of Cecil, and the hypertrophic, the degenerative arthritis of Cecil.

For the sake of thoroughness, Cecil's classification is here given:

CLASSIFICATION OF ARTHRITIS (*Cecil*)

I. Acute arthritis:
  A. Infections
    1. Rheumatic fever
    2. Septic arthritis (gonococcal, etc.)
  B. Non-infectious
    1. Allergic arthritis (serum sickness)
    2. Intermittent hydrarthrosis
    3. Acute traumatic
II. Chronic arthritis:
  A. Infectious arthritis
    1. Specific arthritis
      a. Syphilitic
      b. Tuberculous
    2. Chronic infectious arthritis
      a. Arthritis deformans
      b. Still's disease
  B. Degenerative arthritis (osteoarthritis)
    1. Heberden's nodes
    2. Arthritis of the menopause
    3. Morbus coxae senilis
    4. Senile arthritis
  C. Metabolic arthritis (gout)
  D. Mixed forms of chronic arthritis
  E. Spondylitis

We may also make use of Cecil's differential diagnosis between the two types, substituting in their proper places the terms "atrophic" and hypertrophic".

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*Read before the Tennessee State Medical Association, Knoxville, April 14-15-16, 1931.

Atrophic Arthritis—Average age, third and fourth decades; weight, normal or below; blood, anemic; foci of infection usually present; bones, rarefaction; joints involved, any joint in body; type, migratory; appearance of joints, periarticular swelling; special signs, fusiform finger joints; x-ray, narrowing and clouding of joint spaces; termination, ankylosis and deformity.

Hypertrophic Arthritis—Average age, fifth and sixth decades; weight, usually over-weight; blood, normal; foci of infection, usually absent; bones, condensation; joints involved, knees and fingers, as a rule; type, localized; appearance of joints, no swelling; special signs, Heberden's nodes; x-ray, lipping of boney margins; termination, no ankylosis, usually no deformity.

According to this outline, the classification of patients with chronic arthritis would appear a simple matter; however, certain cases defy such a clear-cut diagnosis and must be regarded as "mixed types". Although it is true that infection is of minor importance in hypertrophic arthritis, removal of foci of infection will sometimes bring about a remarkable change for the better. On the other hand, definitely atrophic arthritis may not be improved by the elimination of all infection. These patients must be given treatment particularly suitable to each.

In a general consideration of arthritis, four fundamental facts should be emphasized: First, chronic arthritis is a generalized or systemic disease in which the affection of the joints is but one of its manifestations. Second, its onset is slow and insidious and treatment must be carried out over a long period of time. Third, one form of treatment probably will never be found which will benefit all these patients; the removal of infection and the administration of "shots" do not constitute the sole therapeutic measures. Fourth, each patient must be studied as an independent problem, as a problem of altered physiology.

Charcot has said, "Arthritis and rheumatoid disability are only branches of a large pathologic tree which has its roots in disturbances of widespread underlying physiologic processes."

In the treatment of arthritis various factors should be considered, as follows: (1) focal infection, (2) physiologic rest, (3) physiotherapy, (4) resection of the sympathetic ganglia and roots, (5) proper body mechanics, (6) drugs, (7) vaccines and foreign proteins, (8) allergy, (9) endocrinology, and (10) diet.

(1) *Focal Infection*—The removal of all possible sources of infection is but one step in the treatment of arthritis. The necessity for the extraction of all infected teeth, the removal of tonsils, and the conservative treatment of sinuses is well known, as this subject has been adequately discussed in every paper on arthritis. A word of warning, however, is probably in order: careful judgment should be exercised in deciding which teeth should be removed or how conservatively an infected sinus should be treated. The opinions of a capable dental surgeon and a highly trained otolaryngologist are of inestimable value in obtaining the best result. It should also be remembered that infected roots are occasionally found in the gums of edentulous mouths; dentists tell us that nearly 30 per cent of these mouths contain roots.

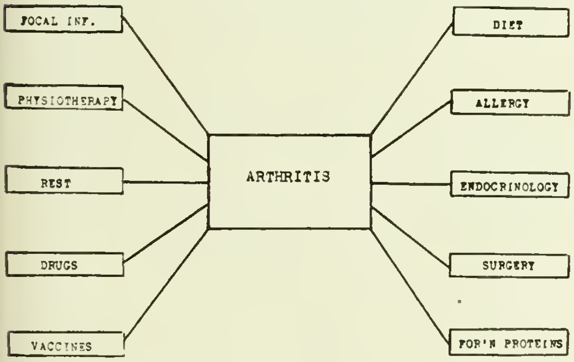
Next to the teeth, tonsils and sinuses, the prostate gland, the gall bladder and the colon should probably be considered most important.

(2) *Physiologic Rest*—It is often stated that rheumatism is aggravated by fatigue and that, conversely, it is improved by plenty of rest. The sympathetic nervous system plays a very significant part in arthritis. Many of these patients have cold, clammy and sweaty extremities—symptoms known to be related to the sympathetic nervous system. If patients with this sweaty condition of the hands and feet are made to sleep either normally or by hypnotics, the extremities will quickly assume a natural state of warmth and dryness. Not only is rest essential, but over-activity and fatigue should be avoided.

(3) *Physiotherapy*—This form of therapy should embrace the application of heat to all affected joints, active and passive movement of the joints, and gentle massage. Three very simple experiments prove

the value of heat: First, Pemberton has shown that by cutting off the blood supply to the patellae of dogs, an overgrowth of bony tissue is produced which resembles very closely the picture of hypertrophic arthritis. Second, Pemberton has also proved that a lowered peripheral body temperature is characteristic of arthritis. Third, the extremities immediately return to a normal warmth and dryness on the application of diathermy over the cervico-thoracic or the lumbar spine. The value of physiotherapy can be appreciated only if it is used daily for a prolonged period; its efficacy cannot be fully proved within a few days or weeks.

(4) *Resection of the Sympathetic Ganglia and Roots*—Rowntree, Hench and Adson have now reported eighteen cases of severe arthritis in which notable results have been obtained by what seems a rather radical surgical procedure. It must be remembered, however, that the majority of the patients selected for this form of treatment were practically bed-ridden. This resection of the ganglia and nerve trunks of the sympathetic system is of course done on both sides of the spine; the point of approach for treatment depends upon whether the upper or the lower extremities are affected.



(5) *Restoration of Proper Body Posture*—Orthopedic surgeons have written at length concerning the restoration of affected joints to a proper weight-bearing alignment. Osgood has said: "The attainment and maintenance of good body mechanics should be a sine qua non in the treatment of all forms of chronic arthritis."

(6) *Drugs*—Arsenic and the salicylates, which have stood the test of time in the treatment of arthritis, are still considered valuable. Ortho-iodoxy-benzoic acid has more recently been employed, but its efficacy is as yet undetermined; time alone will prove its usefulness.

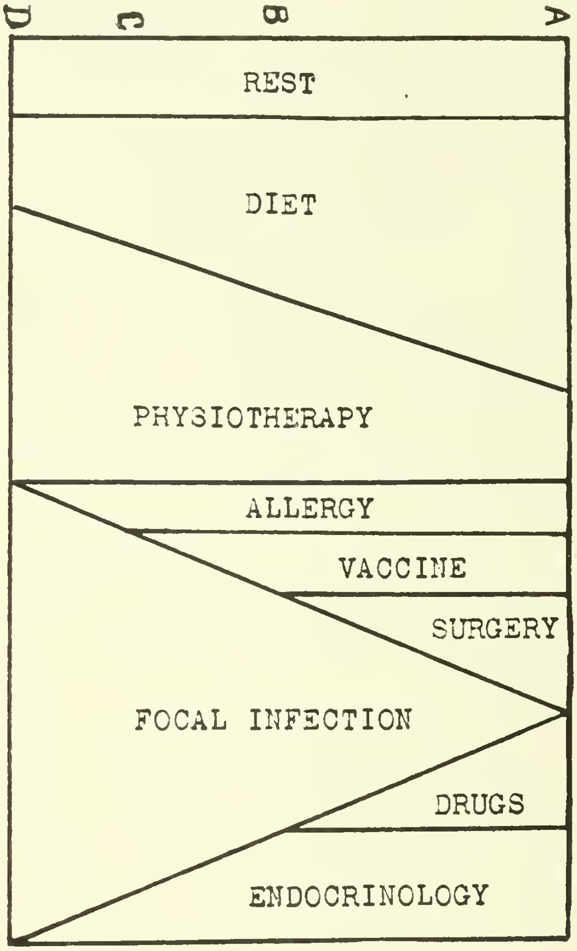
(7) *Vaccines and Foreign Proteins*—It is now generally conceded that a protein reaction, with a chill and fever, has at least a temporarily beneficial effect upon some patients with arthritis. The question is still unsettled as to whether a non-specific vaccine is more effective on account of its protein reaction, or whether an attempt should be made to isolate a streptococcus and use it to make a vaccine. Cecil tells us that he is able to obtain a positive blood culture in 62.3 per cent of his cases and a positive joint culture in 71 per cent. Other workers have not been so successful, although they have used Cecil's technic. Hench states that a veritable tornado occurs in the body when a vaccine is introduced. The reaction thus produced can be divided into two phases, one beneficial, the other harmful. With the enthusiasm of the alchemists of old, attempts are now being made to separate from a protein substance that portion which seems to be harmful in order to secure only beneficial effects. Thus far, such attempts have been wholly unsuccessful. We must also decide what is the optimal dose of a vaccine. Certainly, a severe reaction is far from desirable. At the present time the treatment of arthritis offers no problems more important than whether a vaccine should be used and how small the dose should be.

(8) *Allergy*—The question as to whether the joint affections in arthritis are on an allergic basis will not be discussed here. One sees, however, an occasional patient with painful joints who is entirely relieved by a process of desensitization. A case in point is cited briefly:

A woman, thirty-five years of age, had joint pains for nearly ten years, the attacks lasting from three days to several weeks. The finger joints were sore at all times. She had been told that her sinuses were so badly diseased that only a radical antrum operation would help her. She had perennial hay fever. Tests showed that she was allergic to several proteins. When treated on a basis of an allergic condition, she became entirely free of her arthritis. Her sinuses were then re-examined and reported as being practically normal.

This patient and a similar one differ from the usual case of atrophic arthritis in that the x-ray revealed no joint changes.

(9) *Endocrinology*—In the management of arthritis, one of the cardinal principles is the treatment of the patient and not the disease. Any measure which will improve the general health will assist the patient in throwing off the disease. A few of these patients show definitely a state of hypothyroidism. This condition should be recognized, of course, and adequate thyroid medication prescribed.



This diagram is an attempt to show the results that may be expected from any form of treatment. Any horizontal line may represent the results obtained in a patient with arthritis. For example, a line drawn at D represents the improvement that may take place following the removal of foci of infection, whereas, a line at A indicates that foci may be removed without any improvement.

(10) *Diet*—Pemberton has been writing for more than ten years of the great value of careful dieting in the treatment of arthritis, but only in the past year or two have his opinions received serious consideration. It is generally believed today that the best diet is one rich in vitamins and poor in carbohydrates. Since many of these patients are constipated, the diet must be so balanced as to take care of this condition. In 1921 McCarrison, in experimenting upon monkeys, showed that he could bring about a degenerative change in their intestines by a diet rich in starch and poor in vitamins. Recently, Fletcher has described an atonic condition, which can be demonstrated by means of the x-ray, in the large intestine of many patients suffering from arthritis. He states that the colon shows indistinct haulstral markings, appears too long, and lies unusually low in the pelvis. It will be interesting to note whether others will be able to verify Fletcher's findings.

Pemberton has said: "Arthritis touches more fields of medicine than does any other pathologic state." The problem of arthritis, therefore, is a challenge to every physician. The day was when the arthritic was given a prescription and a hopeless prognosis. That day is gone. The time then came when the physician met the problem with dental forceps and a hypodermic needle. That day is passing. The time is at hand when the physician must give the arthritic patient a chance to get well, an opportunity to become a valuable citizen and engage in a useful occupation. The time has come when the patient with arthritis must be treated scientifically or not at all.

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DISCUSSION

DR. HUGH MORGAN (Nashville): In my discussion of this extremely interesting and timely paper, I should like to confine my remarks to what we have always called chronic infectious arthritis, cases who are suffering with a chronic relapsing disease, usually coming on in the third or fourth decade, characterized by a migratory arthropathy, with redness, swelling, painful joints, usually with residual signs of joint destruction and frequently ankylosis.

Associated with the changes in the joints there are almost invariably nutritional disturbances (under-nutrition); there almost invariably is anemia; as Dr. Chaney has pointed out there are very frequent signs of vasamotor instability, with coldness, sweating, pallor of the extremities; there frequently are metabolic disturbances in the nature of thyroid dysfunction, and not infrequently disturbances in the sugar metabolism, with a decreased tolerance for glucose. That is the group that is the problem. It is a chronic relapsing infection. Its etiology is not known. I think we must admit that. We assume, and justly so, in the light of what we know, that infection plays an extremely important role. How it plays it is still a mystery.

The recent work that Cecil published, in which he reported the recovery of streptococci from the blood and joints, hemolytic and non-hemolytic, of patients with this type of infectious arthritis, has not been confirmed. Boots and his associates have within the last two months reported a repetition of this work under the direction of Cecil, and in their control cultures, using the identical technic, they have the same organisms described as being recovered from the blood of patients.

I think we must hold in abeyance the conclusion that this is undoubtedly and invariably an infectious process. That has not yet been proved.

But how should such cases be handled? Dr. Chaney's charts I think are excellent, and they do allow us to visualize the therapeutic possibilities. Certainly the first thing that must be done in any given case of chronic infectious arthritis is to study the patient as a whole, to try to discover all of the structural and functional disturbances that that individual is suffering with, and to try to correct them; the presence or absence (and that is a very important thing) of focal infection; the state of the body nutrition; the state of the blood; the state of the thyroid function as expressed in the basal metabolic rate; the ability of the individual to handle sugar; the amount of vasomotor disturbance that that particular patient suffers with; the actual state of the joints involved. Only such a complete analysis of any given case will make it possible for us to try to carry out a rational form of therapy.

Under the headings that Dr. Chaney discussed I shall remark upon only a few: The value of rest, of course; the searching out of focal infections. We are apt to find in cases of this sort diseased tonsils in younger people, diseased teeth in older people. We know that focal infection that has long since "burnt out" or has been removed may still perhaps be a factor in the changes that we find when we first see the patient, in alterations of the body physiology.

I think that it is important for us in connection with focal infections not to be stampeded into finding something to "take out." The laity know the importance of focal infection, and they come to us to "find out where the poison is," and we are tempted to find it somewhere.

In conclusion I wish to say that although I do not share the great optimism regarding the results in the treatment of chronic arthritis that is expressed in Dr. Chaney's paper, I am convinced of the soundness of his point of view. As he has so forcefully stated, we know a great many helpful things to do for these patients, some of which, in some cases, may be curative and many of which, even though not curative, are distinctly helpful. Many of us are guilty of not utilizing the knowledge at hand.

DR. CURRAN POPE (Louisville, Ky.): In the limited time at our disposal we can but briefly touch here and there. I have seen good come from actual starvation, and I think when we speak of rest we should speak of it as bodily rest, in contradistinction to the certain amount of activity that we are going to give to the joints. I try never to overlook an x-ray of the sinuses; I think that is a very important matter.

In the laboratory in my hospital and clinic, we have had poor success with blood cultures. We have had remarkable success with a mixed vaccine made up from the feces and from the bile.

In treating a chronic case of arthritis it is best to give them the whirlpool bath. It is decidedly the best single measure.

A first the joint is very tender. We follow the whirlpool bath with gentle massage and the static wave current, which is in itself a vibratory massage of the joint, the like of which is not known in medicine.

This is usually the morning treatment and in the afternoon we give them hyperpyretic treatment or heavy diathermy to the joints.

As the cases improves we reduce the stiffness of the joint, we continue the whirlpool bath, increase the massage, and add manipulations, and adding the galvanic current, either alone, or on one pole, the negative using iodin, and on the positive pole using calcium. I can recommend this to the doctor as one of the best means that I know of in overcoming fibroid conditions.

I would like to say that the neglect in these cases of the use of a very hard, filtered x-ray, is something that I cannot understand with the number of machines in the country.

I believe in the use of actinic light, for its immunizing properties. I prefer the use of a very high-powered pair of arc lights, carrying a 30-ampere current with a 13-millimeter carbon, the carbon C of the National. In this way you get powerful actinic, so-called ultraviolet rays. I can sunburn myself in six minutes. Following that we use tonic hydrotherapy, first hot and then cold water in the shape of sprays, rain baths, and douches, especially the Scottish douche, the alternate hot and cold douche to the joint.

As I say, I want some of you to try making a culture from the gall-bladder and the colon.

DR. J. B. McELROY (Memphis): The Chair would like to take the opportunity of saying that he has heard Dr. Chaney on this subject several times and that he has improved each time. After you have done all that he has recommended you do and that Dr. Pope has recommended you do, there are certain groups of cases that will profit by the experience of King Asa. Those of you who read the Bible know that it says that King Asa was sick in his feet, but he called not upon the Lord but upon the doctors, and he slept with his fathers.

Another group of cases of that chronic arthritis progressiva is like old Brother Smith who attended the Methodist love feast. To those of you who are not Methodists I may say that quarterly a meeting comes around and they have an experience meeting and everybody tells how good the Lord has been to them. Almost everybody had given their experience. Old Brother Smith was sitting up there all drawn up with his chronic arthritis progressiva, and the presiding elder said, "Well, Brother Smith, what has the Lord done for you?"

"Well, Parson, he's well nigh ruint me."

CLOSING DISCUSSION

DR. CHANEY: Gentlemen: I wish to thank all of you very much indeed for your kind discussion of this paper.

I think we should remember that great progress is being made in the treatment of arthritis. Cecil has said that eighty-two per cent of patients with this disease can be cured if they are seen within the first two years. Pemberton, who is conservative, states that seventy-five per cent can be cured. I was speaking of this seventy-five per cent and Dr. McElroy told you about the other twenty-five per cent. It is indeed discouraging to see patients with severe progressive arthritis which grows worse in spite of everything that can be done. We all see them, yet I believe the time is coming when we shall be able to help even these.

A RESOLUTION TO BE PRESENTED FOR CONSIDERATION BY THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION, TOGETHER WITH A DISCUSSION OF THE RESOLUTION

H. H. Shoulders, M.D., F.A.C.S.

WHEREAS, The Federal Government has inaugurated the policy of rendering medical and hospital benefits to veterans of the World War with non-service connected disabilities; and

WHEREAS, This policy was inaugurated over the opposition of the American Medical Association; and

WHEREAS, The policy now in force, if carried to its logical conclusion, involves the construction, the staffing, and the maintenance of a sufficient number of hospitals to accommodate the hospital needs of all the veterans of the World War; and

WHEREAS, Such a policy places the Federal Government in unnecessary and unjust competition with the civilian hospitals and the medical profession of the United States; and

WHEREAS, The present policy is of unequal benefit to veterans by reason of the fact that many disabled veterans cannot (for one reason or another) avail themselves of the benefit; therefore

BE IT RESOLVED, That the House of Delegates of the American Medical Association petition the Congress of the United States and the American Legion to abandon the policy of rendering hospital and medical benefits to veterans of the World War with non-service connected disability, and substitute therefor a plan of disability insurance benefits with the following provisions:

FIRST, The creation of a Bureau of Disability insurance in the Veterans' Bureaus as now constituted.

SECOND, The issuance of a disability insurance policy to each veteran with a disability benefit clause, as follows:

(a) The payment of $20.00 per week during a period of total disability, and (b) The payment of $20.00 a week during a period of hospitalization for any disability. Such benefits to be paid to the veteran upon satisfactory proof of disability.

THIRD, Such other provisions as are necessary for the proper administration of the Act.

A Discussion of the Resolution

This resolution relates entirely to veterans of the World War with non-service connected disabilities. It is not intended that the resolution, or any legislation pursuant thereto, should affect the status of any veteran with a service connected disability. It must be understood that a service connected disability is one which originated in service, or is presumed to have originated in service. A non-service connected disability is one which did not originate in service and has no connection with military service.

Personally, I would have it understood that I am a veteran of the World War, a member of the American Legion and a member of the American Medical Association.

I would have it understood also that I am not one who contends that the government owes veterans with non-service connected disabilities the hospital services that are being rendered.

This service on the part of the government, it seems to me, is an act of generosity toward veterans who are disabled and in financial need, and not an act in the payment of a debt. I don't think the Federal Government could ever pay the debt the American people owe veterans, if they owe a debt at all.

Whether the policy of the Federal Government toward such veterans is wise or unwise, it has become a fixed policy, and, if carried to its logical conclusion, means the construction, staffing, and maintenance of veteran hospitals by the Federal Government in sufficient number and size, and at such locations as to accommodate the hospital needs of all veterans of the World War.

As proof that this form of benefits to such veterans is a fixed policy of the government, attention is called to the fact that there were no less than sixty bills providing for the erection of veteran hospitals or enlarging old ones introduced during the short session of Congress which adjourned recently. Approximately sixty-seven per cent of the admissions to veterans' hospitals are for non-service connected disabilities. In addition to this, the Federal Congress increased the appropriation for hospital construction by several millions of dollars. So we need not discuss further the question as to whether it is the intention of the Federal Government to continue some form of benefits to such veterans.

Recognizing that the Federal Government will render a service to such veterans, I am proposing merely a different form of benefit, which, in my opinion, would be (1) more economical to the government, (2) more satisfactory and equitable to veterans, and (3) less disastrous in its effects on the medical profession of the United States.

COST OF ADMINISTERING BENEFITS UNDER THE INSURANCE PLAN PROPOSED

The cost of administering the benefits provided for in the resolution would be determined by the disability rate experienced.

The co-operation of an able and experienced actuary, Mr. W. H. McBride, of the National Life and Accident Insurance Company, of Nashville, was obtained in an effort to form an estimate of the disability rate to be expected in a group of four million veterans of the World War. He kindly supplied the following estimates:

Number of weeks of disability expected from a group numbering 4,000,000 in 1930, ages 31 to 40, inclusive, in *successive years, excluding those attaining age greater than 60.

1931	4,357,291
1936	4,132,507
1941	3,889,594
1946	3,573,334
1951	2,874,558
1956	1,149,620
1959	267,919

These estimates are based upon the experience of this actuary with a group of sub-standard risks which is composed largely of industrial workers. It also includes women.

It is not reasonable to assume that a group composed of men only who were physically fit for military service in 1917 and 1918 *would give* a disability experience equal to that of an industrial group, especially when those who contracted a permanent disability doing military service are excluded. It must be remembered that all who developed tuberculosis prior to 1925 are included in the service connected disability group. But assuming that the rate would be almost as high, say one week per year per man, which would be a very high rate for such a group, on this basis the weekly disability benefit would amount to $80,000,000.00 per year.

Assuming that hospitalization would be required for ten per cent of the disabilities, the hospital benefit would amount to $8,000,000.00 per year.

The cost of these benefits would be about $88,000,000.00 per year, exclusive of the cost of administration.

The Veterans' Bureau organization as now constituted could be augmented at reasonable cost to take care of the added work the administration of such an act would involve. The overhead should not be in excess of five per cent of the benefits. This would amount to about $4,400,000.00.

It should be observed that the rate of disability would diminish each year until the year 1959, at which time it would involve a relatively small outlay of money. This fact should be emphasized.

Those who attain 60 years of age, or above, can be dealt with as may seem proper. Certainly the plan of hospitalization offers them nothing unless they are sick. There are soldiers' homes already in existence which could accommodate most of them.

So much for the cost of the insurance plan of benefits.

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*Figure for each five-year period is given instead of each successive year.

THE COST OF ADMINISTERING BENEFITS UNDER THE VETERANS' HOSPITAL PLAN

The following facts concerning veterans' hospitals were furnished by the Acting Director of the Veterans' Bureau through Honorable Joseph W. Byrns:

1. "As of March 31, 1931, there were fifty-three Veterans' Bureau hospitals in operation, having a standard bed capacity of 25,920."

2. "Approximately sixty-seven per cent of the admissions to veterans' hospitals are for non-service connected disabilities. However, only forty-seven per cent of the patients remaining in these hospitals March 31, 1931, were hospitalized for non-service connected disabilities."

3. "The Congress of the United States since March 3, 1919, has authorized the appropriation of the sum of $110,477,000 for new construction for veterans' hospitals, and of this amount $97,450,000 has actually been appropriated."

4. "During the last session of Congress $16,350,000 was appropriated for additional hospital and domiciliary facilities and services."

5. "The per-diem cost per patient for operating general hospitals under the Veterans' Bureau during the fiscal year 1930 was $4.42."

6. "The average cost of construction per bed is approximately $3,500. The average annual cost of professional staff per bed is approximately $151.56."

7. "The Medical Council of the Veterans' Bureau has estimated that the maximum number of beds needed would be 129,859, on the assumption that veterans of all wars are given a mandatory right to hospitalization."

8. "The average cost of transporting a veteran to and from the hospital is approximately $30.58."

Taking the above facts and estimates as a basis for computing costs, the following estimates are arrived at:

1. The cost of maintaining 129,859 beds would be $209,501,524.70 per year.

2. The cost of constructing hospital buildings for 103,939 additional beds would be $363,786,500. There are already in existence 25,920 beds.

3. The cost of the professional staff would be $19,681,430.04 per year.

It is not possible to estimate the cost of equipping these hospitals nor the cost of transporting veterans to and from the hospitals.

To say nothing of the cost of construction, the cost of equipment and the cost of transportation, the cost of two items alone—viz., hospital maintenance and the professional staff—per year would amount to $229,182,954.74.

The time soon would come when all the beds would not be needed, and then the hospitals and their equipment would be gradually abandoned, or a new policy concerning their use inaugurated. It is reasonable to assume that a new policy would be inaugurated and that the new policy would consist of extending the hospital benefits to the families of veterans, and so on to the ultimate limit of "State Medicine" under Federal control. This is not a rash assumption.

The cost of such a program of benefits is beyond estimate.

Certainly the insurance plan of benefits would be more economical to administer; and when the last need of the last veteran has been met, there would be no buildings and equipment to be abandoned.

FROM THE VIEWPOINT OF THE VETERAN

It is assumed that the aim of Congress in providing the hospital plan of benefits is to aid the veteran who is sick and in economic distress. The pospital plan is of no benefit to the veteran whose circumstances do not permit him to go to a hospital, however serious his financial distress may be. In some cases the illness does not permit a patient to be transported a long distance. For example, a veteran taken suddenly ill with influenza or pneumonia cannot be transported with safety a great distance. The veteran who is ill of influenza or pneumonia might be in the greatest economic distress, but the hospital plan of benefit would be of no relief to him. Under the insurance plan of benefit the veteran would draw his twenty dollars per week during his illness. If hospitalization is required, there are civilian hospitals readily accessible to almost any point in the United States. The twenty dollars per week of hospital benefit would go a long way toward defraying his hospital expenses, and his family could live on the twenty dollars per week disability benefit. Thus such a veteran would be tided over an economic crisis. He would be saved the necessity of calling on charity agencies for aid. This is one of the advantages of the insurance plan to the veteran.

Another advantage is that the veteran would select his own doctor. He would select his own hospital. He would select the type of service in the hospital that fits his circumstances and needs. He would spend his own money in his own locality for a service of his own choosing. This comports with the spirit of American principles.

The insurance plan is equally available to all veterans. Regardless of where he lives, the benefit would be available. Regardless of the nature of a disability and regardless of whether his disability involves home confinement or hospital confinement, his benefits would be forthcoming. Under the hospital plan of benefits the Federal aid is not available until the veteran is in the hospital, and then he accepts whatever service is provided by such hospitals. It seems to me that intelligent veterans would prefer the insurance plan of benefits over the hospital plan of benefits.

FROM THE STANDPOINT OF THE MEDICAL PROFESSION

When the Federal Government erects and equips hospitals and provides them with a professional staff, at government expense, for the care of citizens who were not injured by military service, the government enters into competition with the private practice of medicine and with private hospitals, and thus violates a fundamental principle of the American people.

A lengthy discussion of the disastrous influences of such a form of State medicine will not be gone into. It suffices to say that such a policy would be destructive to the efficiency of American medicine, and such a destruction would react ultimately on the service that is rendered the public at large by the profession and by hospitals.

The hospital plan, therefore, is unfair to the profession of medicine. In addition to being unfair, it will destroy the principle of individual initiative in medicine and bring about State medicine with all of its unwholesome effects.

While it may not be important, it is a fact that the organized medical profession furnished a larger proportion of its members to the Army and Navy during the World War than any group of citizens, with the possible exception of engineers. The hospital plan of benefits, therefore, is unfair to one large group of veterans.

(Late press dispatches state that this resolution was adopted by the House of Delegates of the A. M. A. at Philadelphia, June 9, 1931.)

REPORT OF THE COMMITTEE ON THE COSTS OF MEDICAL CARE*

"Organized to Study the Economic Aspects of the Prevention and Care of Sickness, including the Adequacy, Availability and Compensation of the Persons and Agencies Concerned."

K. S. Howlett, M.D., Franklin

IN 1925, or about that time, quite a number of articles appeared in the lay press on "The Increasing Cost of Medical Care", "The High Cost of Babies", etc. Because of some apparent unrest among physicians as well as the general public, as to existing conditions at that time an informal conference was held in Washington, D. C., on April 1, 1926, to consider the economic factors affecting the organization of medicine.

Dr. Lewellys F. Barker was made chairman of this conference, and was instructed to appoint a committee of five, to include himself, to formulate a series of studies on the economic aspects of medical service and to develop a plan to create a commission to be responsible for the conduct of these studies.

This committee of five, as appointed by Dr. Barker, was composed of the following men: Winford H. Smith, M.D., Chairman; Michael M. Davis, Ph.D., Walton Hamilton, Ph.D., C. E. A. Winslow, Dr. P. H., L. F. Barker, M.D., with H. H. Moore, Ph.D., as secretary.

At a meeting of this committee a conference was planned for the purpose of bringing about a new organization to assume the various functions proposed. This conference was held in Washington on May 17, 1927, and was attended by some sixty persons, including sanitarians, economists, philanthropists, persons representing the welfare of the general public, with physicians predominating. While the great majority of them were from the northeastern area of the United States, the South was represented by D. W. S. Rankin, of North Carolina, of the Duke Foundation; Dr. J. Shelton Horsely, of Richmond, Va., with Dr. Ray Lyman Wilbur representing the West Coast.

After full discussion, the committee on the Cost of Medical Care was created. This committee was to serve five years and was to have the following functions:

1. To conduct an analysis of the problems of medical organization, particularly of its economic factors.

2. To plan a series of studies or researches on the basis of the proposed analysis, utilizing, as this committee may see fit from time to time, the outline of studies prepared by the committee of five appointed at the preliminary conference in 1926. These studies were to be assigned to various interested agencies and individuals, and were to be subsidized only, when they could not be properly undertaken without financial aid.

3. To conduct a limited number of studies by its own staff when it became evident that such studies could not be adequately handled by any existing agency.

4. To arouse the interest of professional groups and of the public in the real facts regarding medical service, as such facts were ascertained, and became available, particularly in the committee's studies; to promote discussions by medical, public health, and economic agencies, or other organizations when the public was present, and to conduct various kinds of conferences. Reports of the committee's researches were to be issued and publications of articles in the professional and popular press was to be provided for.

The committee, in the beginning, had twenty members which number has been gradually increased to fifty, twenty-five of whom are M.D.'s, two D.D.S.'s, and one with both M.D. and D.D.S. degrees. Fourteen of these M.D.'s are private practitioners, while the others are representative of institutions such as the American Medical Association (represented by Dr. Olin West), the Rockefeller Foundation, the Duke Foundation, etc.

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*Read before the House of Delegates of the Tennessee State Medical Association, Knoxville, April 14-16, 1931.

The work of the committee has been financed by eight foundations, viz: Carnegie Corporation, the Josiah Macey, Jr., Foundation, the Milbank Memorial Fund, the New York Foundation, the Rockefeller Foundation, the Julius Rosenwald Fund, the Russell Sage Foundation and the Twentieth Century Fund.

The General Committee meets twice a year and it has an Executive Committee which meets monthly.

The Executive Committee is composed of eight members with Dr. C. E. A. Winslow, Dr. P. H., Chairman; five M.D.'s, one woman, the widow of a physician, and two Ph.D.'s. Altogether something around a million dollars has been expended by the committee in its various activities.

Quite a number of studies have been compelled and full reports issued. Among the notable ones are the "Incidence of Sickness Among Certain Groups", "The Hospital Situation Throughout the Country", "The Metropolitan Life Insurance Company's Report on Sickness Among Its Policyholders", "The Endicott-Johnson Report on the Manner of Furnishing Medical Service to All Employees by an Industrial Corporation"; the Saskatchewan, Canada, report, showing the manner of employing township doctors for all citizens who care to avail themselves of this kind of service; the Shelby County, Indiana, report, showing the cost of medical service in an average midstate county, largely agricultural. The Philadelphia and the Detroit reports showing conditions in two large cities, etc.

At the spring meeting of the committee in May, 1929, in discussing reports already issued up to that time, some sharp criticisms of these reports and the recommendations thereof were made by Dr. Olin West and other members of the medical profession. The charge was made that some of these recommendations tended too much towards socialism, and State or Industrial medicine.

It was contended and agreed to, that the committee was a fact-finding committee, and that simple facts should be published, without recommendation. In fact, the members of the committee were urged to keep an open mind as to ultimate conclusions, until all projected studies had been completed and all the facts assembled as completely as possible.

At the meeting of the committee in May, 1930, the chairman, Dr. Ray Lyman Wilbur (who had been a practitioner of medicine and one of the Councillors of the American Medical Association before he had become President of a University or a member of President Hoover's Cabinet) clarified the situation very much by a statement of three fundamental principles which were accepted without change and which if adhered to will, in my opinion, not antagonize, but on the other hand, meet with the approval of the medical profession.

These three points are as follows:

1. *The personal relation between physician and patient must be preserved in any effective system of medical service.*

Medical service is and doubtless, by its very nature, must remain, a distinctly personal service. Even in this age of standardized commodities for the table, ready-to-wear clothing, and interchangeable spare parts for all types of machines, there has been no plan suggested for the reduction of medical diagnosis and treatment to basic units which can be ordered from traveling salesmen or acquired through correspondence courses. The physician must see his patient and see him, in many cases, over an extended period of time, if the diagnosis and treatment are to achieve the greatest possible accuracy and efficiency. There is no substitute for personal observation.

Man is not a standardized machine and each individual reacts to the conditions of life in a manner in some respects unique. In the treatment of disease, this individual variation is a factor of great significance and can receive due consideration only when the practitioner has known the patient for a considerable time and maintains a personal relation with the patient.

2. *The concept of medical service of the community should include a systematic and intensive use of preventive measures in private practice and effective support of preventive measures in public health work.*

The cost of adequate curative treatment is now high and may continue to increase as expensive procedure resulting from scientific progress becomes more widely used. Sickness, in addition, involves other personal and social costs, some of which can not be measured in monetary terms.

The outstanding achievements in scientific medicine have been made in the preventive rather than the curative field. Knowledge now available for the control of malaria, tuberculosis, smallpox, diphtheria, pellagra, typhoid fever, hookworm, and goiter, if effectively applied, would make unnecessary a considerable proportion of the present expense for the cure of sickness.

3. *The medical service of a community should include the necessary facilities for adequate diagnosis and treatment.*

From the standpoint of effective diagnosis, many diseases, such as tuberculosis, cannot be recognized promptly in their early stages without the aid of elaborate technical equipment. From the standpoint of adequate therapy, if the best of modern technique is not immediately available, complete cures are either delayed or rendered impossible of attainment. To cite a specific illustration of the improvement of modern therapeutic procedures over those of ten years ago, the time required for treatment of fractures of the hip, and the percentage of permanent invalidity resulting from that injury have each been reduced by more than half.

We cannot be content with anything except the best possible service that modern science can provide and it is therefore imperative that modern scientific equipment for the diagnosis and treatment of disease be available to the practitioners of medicine in every community.

At this meeting, also, a committee composed of all the private practitioners present, both doctors and dentists, were appointed with Dr. Stewart Roberts of Atlanta as chairman. This committee drew up a paper on the "Scope and Aim of the Committee on Costs of Medical Care", which report was concurred in and signed by every member of the committee.

This committee also requested Dr. M. L. Harris, at that time President of the A. M. A., and also a member of the committee, to bring the matter before the House of Delegates of the A. M. A. at its next meeting. Dr. Harris did so and the following recommendation was adopted at the 1930 meeting.

"*Support of Committee on Costs of Medical Care.*" The President's plea for a more general and whole-hearted support by the medical profession of the work of the Committee on the Costs of Medical Care is endorsed. Your reference committee feels that inasmuch as Dr. West, Secretary of the American Medical Association; Dr. Wilbur, chairman of our Council on Medical Education and Hospitals, and a number of private practitioners, endorsed by this association, are members of the committee, the interests of the individual practitioner will be conserved in the final analysis to be offered by the committee."

Many outstanding and interesting facts have been brought out in the various researches and reports of this committee.

It was shown, as we all knew before, and as was stated last night by our President in his excellent address, that there is a scarcity of competent physicians in the rural areas and a surplus in the cities and large towns. So much so that the rural population is not getting adequate medical care. This is a regrettable condition and it is up to the medical profession to devise and suggest means by which this can be corrected if we would stave off state medicine.

It was shown that the greatest preventable waste of good hard-earned dollars, is not in the high fees paid the doctors whose average income is below what it should be, when the cost of medical training and of the necessary equipment is considered; but in self-medication and in the purchase of useless and often harmful drugs. The Shelby County, Indiana, report brought out the fact that in that county, in the year that survey was made, more money was spent for medicine than was paid to doctors and dentists combined.

Continuous, persistent educational propaganda among the people is the only remedy. Appeals to congress and state legislatures are useless until public opinion is aroused and properly directed.

As was stated by Dr. Wilbur as one of his three fundamental points, these should be an extension of the use of preventive measure and in Tennessee there should be no backward step and certainly no reduction of the appropriation for carrying on this work in the rural sections of our state.

The Health Unit of Williamson County costs the county $7,500.00 per year, and the county and state together $12,500.00, and without doubt, the work of this unit, conferred to a far greater benefit in the saving of lives and the prevention of sickness, than $15,000.00 spent by Shelby County, Indiana, in taking care of the deficit of its county hospital.

However, rural hospitals or accessible small town hospitals are very important factors in providing adequate medical care for the rural population. They make available the proper care of the sick where such care is impossible in the homes. They help to keep qualified physicians in the country, and evidently cause those who do stay, to keep themselves more up-to-date, more fit to render good medical service. There is no more danger of politics entering into the control of state controlled hospitals than there is of politics entering into the control of City Hospitals, and yet no city in this day is without its hospital for the care of the sick.

We must acknowledge that there are many plausible reasons given for, and many good features of, state employed or industrially employed doctors. The Endicott-Johnson report and the Saskatchewan, Canada, report bring out these good features strikingly, but a deeper study of this matter makes apparent two fatal objections.

First, Dr. Wilbur's first fundamental point is violated and the personal relations between the physician and patient is not maintained.

The patient must take the physician selected, and is deprived of the privilege of selecting a personal physician.

Second, it destroys the strongest incentive for individual initiative upon the part of the physician, and takes away his sense of personal responsibility to his patient. This will result and has resulted in a less progressive, and hence poorer class of practitioners.

That something should be done to increase the compensation of the rural doctor is unquestionable. Some form of sickness insurance under state or governmental control seems to offer a solution. In this way the doctor would get some compensation for every patient attended. This would in no way interfere with personal relation between physician and patient; would enable the patient to call the physician of his preference, make him less dependent and increase his self-respect. While physicians are justly credited with being the most altruistic class of men, it is conceded that human nature is such that even a doctor will make greater effort to reach a hardly accessible patient and give such patient closer and better attention if he is assured of some compensation for his services.

This would increase the income of the rural doctor and add very much to the attractiveness of a country practice.

A word in regard to the extension of the use of preventive measure.

In his annual report for 1925 the Surgeon-General of the United States states that the "purpose of all health work is the application of human knowledge in the care and restoration of the sick and the prevention of disease." In commenting on this statement before the Tennessee State Medical Association in 1926, I said: "It should be clearly recognized that the care and restoration of the sick belongs in no sense to the health official, but is the exclusive province of the general practitioner, fitted by training and expense in this work. The application of human knowledge in the prevention of disease is a man's full time job demanding all the energies and resources of the health official and it should be neither his duty nor his privilege to treat those already sick, not even charity patients."

The above principles should and must be observed by the health official if he would secure the cooperation of the general practitioner, without which he cannot succeed in his work.

There are many questions presenting themselves which must be answered in some way by this committee. I come before you not to give you my point of view in regard to their answers but rather to get your point of view. I was put on this committee as a representative of the rural practitioners. I certainly do not wish to advocate any policy that would not meet with your approval. I should be very glad to have the views of any or all of you, when you have formed definite opinions.

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H. H. SHOULDERS, M.D., Editor and Secretary

JUNE, 1931

EDITORIAL

Post-Graduate Work

There are many forms of medical post-graduate study and teaching. Emphasis is being given, and rightly so, to post-graduate teaching for men engaged in general practice in towns with a population of less than five thousand.

However expert men may become in the various specialties, mortality from remediable causes will be reduced only in proportion as the practitioners throughout the state are trained in their recognition. It is a bit strange to note that mortality from such a usual condition as appendicitis is increasing.

It is impossible for any man at the present time to remain abreast of the progress that is taking place in medicine unless he has frequent contact with his fellows, reads the literature and takes an occasional clinical post-graduate course. To our way of thinking, the most important single form of post-graduate study is contact with fellows in medical society meetings. The second most important is the reading of literature and the third is the post-graduate course.

We have been very ambitious to combine small local societies into larger units throughout the state which will facilitate the giving of post-graduate courses in the form of frequent meetings with good papers on important subjects and clinical demonstrations, if facilities permit.

It is hoped that the profession in the small units throughout the state will give serious thought to the question of combining those counties with ten doctors and less with other adjacent counties to the end that each local society will consist of not less than twenty-five members. When a society has this number a good half day's program can be put on once or twice a month by local members, or by invited guests from other points who are always available and glad to co-operate in holding the general level of practitioners of medicine in Tennessee on the high plane they have always occupied.

Membership for 1931

On June 1st, our membership was 1,420. This represents a slight falling off in our membership for this time of year. The falling off is attributed to financial stringency on account of the depression.

We gather information from many sources that doctors have been harder hit by the depression than most any other group of citizens. Doctors have been generous and lenient toward their patrons with regard to the payment of obligations. The profession has been carrying on in a noble way and let's hope there are brighter days not far ahead.

Officers and members throughout the state will co-operate in an effort to hold our membership up to the limit.

DEATHS

Dr. J. T. Sugg, of Brentwood, R. F. D. No. 2, was born March 22, 1861. Died April 29, 1931, from injuries received in falling as he was alighting from his automobile. He graduated in medicine from the Memphis Hospital Medical College in 1896, located at Beechville and has practiced his profession in that community to the time of his death. He was a former member of the Williamson County Medical Society.

RESOLUTIONS

It is with a feeling of deep regret that we note the passing of the father of our fellow-member, Dr. S. S. Moody, at his home in Shelbyville, Tennessee, on March 24, 1931, at the advanced age of 83, and also of the passing of the daughter of our fellow-member, Dr. N. E. Hartsook, who passed peacefully away at her home on March 31, 1931.

Dr. Moody's father was a physician of many years' standing and experience, and his passing will be a great loss to the community in which he lived and practiced for many years. It is with feelings of regret and loss to our great profession that we record the death of the respected practitioner of medicine.

Miss Hartsook was a talented young lady of fine character and personality whose passing so early, just at the threshold of a career of usefulness and happiness both to herself and others, is a source of deep regret and loss to all who knew and admired her.

Therefore, be it resolved by the Johnson City and Washington County Medical Society:

First: That we deeply sympathize with our fellow-members, Drs. Moody and Hartsook, in their bereavement and great loss, and that we and they bow in humble submission to the will of the all-wise Father of us all.

Second: Be it further resolved, that a copy of these resolutions be spread upon our minutes, and a copy sent to the press, and to the Journal of the Tennessee State Medical Association, and a copy be furnished to the families of our fellow-members, Drs. Moody and Hartsook.

W. J. Matthews,
C. W. Friberg,
Committee.

Whereas, the Supreme Commander has summoned to his last reward His faithful servant, Dr. E. C. Kinsinger, a valiant and faithful doctor and distinguished citizen, whose unselfish devotion to suffering humanity was recognized by his many admiring friends.

He was a noble witness to right living, and one who ministered carefully and tenderly to all.

The memory of his usefulness and loyal service will always be cherished by those to whom he rendered such valuable service.

McMinn County Medical Society will forever feel the loss of a constant member and loyal servant.

Now, therefore, be it resolved by this society that the profound grief in the loss of this splendid doctor, be expressed to the members of his family.

We send our united and sincere condolence. May you live in the confidence that he is in the everlasting happiness.

Be it further resolved that a copy of this resolution be spread upon the minutes of this meeting, and a copy be sent to the State Society for publication and a copy to the family.

Respectfully, your committee,

S. B. McClary,
D. P. Brendle,
R. W. Epperson.

NEWS NOTES AND COMMENTS

Dr. Wm. N. Lackey has returned to his practice in Gallatin after completing a four months course in post-graduate work at Vanderbilt.

Dr. Herman Hawkins, of Jackson, was reported as improving following a serious illness last month.

Dr. John A. McCulloch, of Maryville, spent the month of May in Hot Springs, Arkansas, taking an intensive course in venereal diseases, as offered by the Government Hospital.

Dr. G. M. Peavler, of Bristol, was operated on for appendicitis at Kings Mountain Memorial Hospital.

Dr. D. J. Johns, Jr., Nashville, has moved his office to the Medical Arts Building.

Dr. E. T. Kelly, of Tiptonville, was fortunate in escaping injury when his car was badly damaged by collision with another car.

The American College of Physicians will holds its Sixteenth Annual Clinical Session at San Francisco with headquarters at the Palace Hotel, April 4-8, 1932. Following the clinical session, a large percentage of the attendants will proceed to Los Angeles, where a program principally of entertainment will be furnished April 9, 10 and 11.

Announcement of the dates is made particularly with a view not only of apprising physicians generally of the meeting, but also to prevent conflicting dates with other societies that are now arranging their 1932 meetings.

Dr. S. Marx White, of Minneapolis, is President of the American College of Physicians, and will arrange the program of General Sessions. Dr. William J. Kerr, professor of medicine at the University of California Medical School, San Francisco, is general chairman of local arrangements, and will be in charge of the program of clinics. Dr. Francis M. Pottenger, of Monrovia, is president-elect of the college, and will be in charge of the arrangements at Los Angeles. Mr. E. R. Loveland, executive secretary, 133-135 S. 36th Street, Philadelphia, Pa., is in charge of general and business arrangements, and may be addressed concerning any feature of the forthcoming session.

Under the head of County Medical Societies we give the program of the meeting of Roane, Monroe, Loudon and McMinn Societies. These four counties plan to hold four joint meetings during the summer. Two of the counties have eleven members each. One has fourteen members, and one has fifteen, a total of fifty-one members. We know that every one of these men will get much more out of the joint program than if they had attended a meeting where only eleven to fifteen could be present. We want other counties to try this plan. We are sure that it will result in the permanent union of the counties and increased interest in the activities of the societies.

MEDICAL SOCIETIES

Bedford County—At the May meeting Dr. T. R. Ray, Shelbyville, spoke on "Tubal Pregnancy".

Chattanooga and Hamilton County Medical Society—May 6th: Dr. F. E. Marsh on "Recent Advances in Neurology"; Dr. John B. Steele, "Importance of Diastolic Blood Pressure", and Dr. J. H. Revington, "Appendicitis".

May 14th: Dr. E. Dunbar Newell entertained the society at his home. The essayists were Dr. D. Isbell, Dr. Frank Harris, and Dr. E. Dunbar Newell.

May 21st: "Some Unusual Case Reports", by Dr. Franklin Johnson; "Sinuses, Their Development and Significance in Early Life", by Dr. Chester L. Lassiter.

May 28th: Paper by Dr. A. J. Crowell, Charlotte, N. C.

June 4th: "Spastic Colon", by Dr. C. E. Homan; "Some Surgical Conditions of the Gall Bladder", by Dr. Hiram Laws.

June 11th: "Diseases of the Coronary Vessels", by Dr. W. E. Bryan.

"The Use of Unner's Boot in Pathological Conditions", by Dr. Earl R. Campbell.

Davidson County—May 12th: "Adenomyoma (Endometrioma) of the Umbilicus", by Dr. Herman Spitz. Discussion opened by Dr. W. D. Haggard.

May 22nd: The spring session was closed by an address by Dr. O. S. Lowsley, of New York, on "Uroselectan and Other New Methods of Urologic Diagnosis and Treatment."

Dickson-Hickman-Humphreys — At the meeting on April 28th, the following program was given: "Problems of Breast Feeding", by Dr. W. J. Sugg; "Acute Appendicitis", by Dr. W. K. Edwards; "Acute Ileocolitis", by Dr. John M. Lee, Nashville; "Discrepancies in Heart Conditions", by Dr. J. Owsley Manier, Nashville.

Dyer, Lake and Crockett—On May 6th, Dr. Percy W. Toombs, of Memphis, read a paper on "The Acciput Posterior. Dr. Edward Clay Mitchell, Memphis, discussed "The Care of the Pre-School Child" and "Feeding and General Management".

The nurses of Dyersburg were invited guests. All the counties were well represented.

Hardin, Lawrence, Lewis, Perry, Wayne—On April 28th a good attendance from each county enjoyed the following program:

A paper by Dr. H. C. Boyd on the doctor's side of the birth control question, with Dr. C. M. Womack discussing the paper.

Dr. John L. Jelks, of Memphis, presented a paper which was discussed by Dr. DeFord, of Savannah.

Dr. Battle Malone, of Memphis, presented a paper which was discussed by Dr. D. L. Woods.

Dr. Springer, of Hohenwald, presented a paper on "Spinal Meningitis", discussed by Dr. E. M. Culp.

On May 26th the meeting was held at the Shiloh National Park. A basket dinner was served by the wives of the members. A large number was present from each county and the meeting was one of the most successful in the history of the society. The program was as follows:

"A Brief Summary of the Commoner Diseases of the Liver", by Dr. W. H. Gates, Milledgeville. Discussed by Dr. O. C. Doty, Savannah.

"The Distribution of Physicians in the Counties Bordering the Tennessee River in West Tennessee", by Dr. O. W. Hyman, Memphis.

"Present Status of the Treatment of the Toxemias of Pregnancy", by Dr. W. A. Ruch, Memphis. Discussed by Dr. Watt Yeiser, Columbia.

"Chronic Purulent Otitis Media", by Dr. Sam T. Parker, Jackson. Discussed by Dr. J. W. Danley, Lawrenceburg.

Knox County—May 19th: "Vincents Angina in Other Locations Than the Mouth", by Dr. E. P. Nicely. Discussion opened by Dr. Kyle Copenhaver.

May 26th: "Group Insurance for the Doctors of Knox County Medical Society", by Mr. C. C. Carroll. Discussion opened by Dr. R. H. Newman.

June 2nd: "Diphtheria", by Dr. E. A. Guynes. Discussion opened by Dr. W. R. Cross.

Roane, Monroe, Loudon, McMinn County Medical Society—A meeting was held on May 28th at Harriman. This was the first of four joint meetings planned for the summer program. The following papers were read:

"Diabetes Mellitus", by Dr. L. L. Barnes, Sweetwater. Discussed by Drs. J. J. Waller, Oliver Springs, and Arthur Harrison, Loudon.

"Head Injuries", by Dr. Avery Leeper, Lenoir City. Discussed by Drs. Edward Foree, Athens, and F. A. Neergaard, of Harriman.

"Syphilis in Social Work", by Dr. J. C. Wilson, Rockwood. Discussed by Drs. J. R. Nankiville, Athens, and B. W. Bagwell, Madisonville.

"Ringworm", by Dr. D. P. Brendle, Englewood. Discussed by Drs. W. L. Cameron, Sweetwater, and G. P. Zirkle, of Kingston.

"Tuberculosis in Children", by Dr. Horton Casparis, Nashville.

After dinner talks by Drs. S. R. Miller, Knoxville; J. L. Bibb, Chattanooga; John Roberts, Kingston, and Walter S. Moore, Etowah.

Two scientific medical motion pictures on "Colles's Fractures" and "Hydrocele".

OTHER MEDICAL SOCIETIES

Middle Tennessee Medical Society—The seventy-third semi-annual meeting was held at Springfield, May 14, 15. The program was well arranged and each paper was carefully prepared on an important subject.

Dr. and Mrs. W. W. Porter entertained the Association at lunch. A banquet was served the night of the 14th, the hosts being the Robertson County Medical Society.

Dr. C. S. McMurray, of Nashville, was elected President. Dr. John S. Freeman, Springfield, Vice-President, and Dr. Theo Morford, Nashville, Secretary.

The next meeting will be held at Fayetteville.

West Tennessee Medical Society—We have received twenty-seven newspaper clippings giving accounts of the West Tennessee Medical Society meeting in McKenzie on May 21-22. The meeting was well advertised, the program was very interesting, the attendance fine and no limit to McKenzie's hospitality.

Dr. Sam Parker, of Jackson, was elected President. Dr. I. A. McSwain, of Paris, was re-elected Secretary for his thirty-first term.

The next meeting will be held in Jackson.

Vanderbilt University Medical Society

May 15, 1931

1. *Case Reports*:
   (a) Hemoglobinuria of Obscure Origin—Dr. Van Temple.

A case of severe hemoglobinuria in a white boy, age 4, with profound toxic symptoms, jaundice, hypertension, enlargement of liver and spleen and marked secondary anemia; associated with a large, irregular, indurated lesion on the back, thought to be due to the bite of a spider, Latrodextrus Mactans. Treated by blood transfusions, intravenous saline and glucose, and intramuscular injection of antivenin. Recovery in eight days.

Case discussed by Dr. H. E. Meleney.

   (b) Carcinoma of Stomach Originating in Ulcer—Dr. R. L. Hill.

The patient, a 57-year-old white male, gave a vague history of epigastric pain for 17 years, worse for past three years, with no relation to taking of food. Gastro-intestinal series revealed an ulcer of stomach. Operation advised on basis of this finding, the age of the patient, and the loss of 25 pounds in weight. Gross section of stomach revealed a partially healed ulcer with a small, stony, hard nodule just outside of the stomach wall. Microscopial section showed early adenocarcinoma infiltrating the base of ulcer. While not conclusive, it is thought to be strongly suggestive of the development of carcinoma in the base of a gastric ulcer of long standing.

Case discussed by Dr. E. W. Goodpasture.

2. *Excitability of the Turtle Auricle and Ventricle During Vagus Stimulation*—Drs. Richard Ashman and W. E. Garrey.
3. *Guanidine as a Factor in Certain Acute Toxemias in Children*—Drs. Katharine Dodd, A. S. Minot and Horton R. Casparis.

Superficially the symptoms of experimentally produced guanidine poisoning in animals and those of some of the so-called toxemias of infancy and childhood are the same. The concentration of guanidine in the blood is the same. The favorable response to calcium therapy is the same. While the pathology is none too specific, it is similar in both types of cases. Our limited experience with calcium therapy in certain toxemias has been encouraging and leads us to hope that clinical results may improve if this form of treatment is added to the usual methods of therapy.

Paper discussed by Drs. Horton Casparis, Alfred Blalock and W. E. Garrey.

NEWS OF WOMAN'S AUXILIARY

MRS. WILLIS C. CAMPBELL

Sponsor to the American Medical Association meeting, Philadelphia, June 8-12, 1931.

BOOK REVIEWS

Clinical Allergy, Particularly Asthma and Hay Fever Mechanism and Treatment. By F. M. Rackmann, M.D., Physician Massachusetts General Hospital, Boston. Price $10.50. Published by The Macmillan Company, New York.

Dr. Rackmann in this monograph presents to the medical proefssion a specialty in a very clear, practical way. All the available facts on this very technical subject have been collected and systematized, making study of this book a veritable post-graduate course in Allergy.

He gives three reasons why Allergy must be considered a fundamental state. (1) Only small proportion (.5% to 1%) of people exposed to different foreign substances acquire a hypersensitiveness to them; (2) about 50% of susceptible individuals inherit a tendency to hypersensitiviness; (3) different clinical manifestations of hypersensitiviness may occur together in same patient, as combinations of asthma and hay fever; asthma and eczema, eczema and urticaria, migrain and urticaria, etc., and each of these manifestations can be explained pathologically as due to spasm of smooth muscle, or to an increase in capillary permeability, or to both of these factors, acting at same time.

Of course, positive skin tests are frequently elected but often disappointing, the skin often being one organ of a certain individual which is not receptive to a specific allergin. Also, a blood eosinophilea when found is another definite characteristic of an allergic individual (provided other causes of eosinophilea are excluded). The next two hundred pages are most practical, giving in detail the diagnosis, clinical manifestations, and valuable suggestions as to treatment of all the allergic conditions, particularly asthma.

To the accepted definition of allergy (which is the capacity to react in an abnormal way to contact with foreign substances), he adds the capacity to develop hypersensitiviness, and this explains multiple sensitiviness and occurence of several manifestations of allergy in same patient, as eczema in childhood followed by asthma in adult life, etc.

His case reports well explain the different points he wishes to drive home.

An appendix gives a list of all substances which can produce allergic reactions.

Am sorry he omitted in his Appendix B several of the patented asthma nostrums with their compositions, that are most popular here in the South. —J. L. BIBB, M.D.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By Hugh Barr, M.D.
Medical Arts Bldg., Nashville

Spinal Anesthesia. S. W. Boyce, M.D., Shreveport, La. Tri-State Medical Journal, April, 1931.

The technic of administration of spinal cord block has perhaps as many variations as there are individual operators; for instance, dissolving the anesthetic drug in the spinal fluid and consequently holding the drug where injected. Some use fluid of high specific gravity, injecting high and expect the drug to settle to the desired level. Others add small amounts of alcohol to make the solution of the drug light, injecting low down, expecting the drug to rise to the proper level.

The author's method adopted was using a fluid whose gravity was higher than 1.007, the weight of the spinal fluid. The patient's head is lowered until the anesthesia has reached the proper level. Then the table is raised for five or ten minutes, and then the Trendelenberg position is used again. The author claims that vasamotor relaxation, fall in blood pressure, and cerebral anemia, not motor paralysis, are dangerous. These symptoms are combatted by the Trendelenberg position.

With a patient on his back, this heavy solution naturally gravitates to lie on the sensory nerve roots just where it is needed, thus insuring the use of a minimum amount of the drug. A lighter solution demands an excess to extend to the higher levels of the cord; also, the lighter solution floats up to the field of the motor nerve roots, demanding an excess to make it reach down to the sensory roots. Thus, our patient must withstand the toxicity of two excesses to get the benefits of anesthesia. In the author's opinion, one-fourth to one-third of the drug in heavy solution will give the same results.

The advantages of spinal anesthesia are prevention of shock, relaxation, less post-operative complications, and reduction of hospital expenses by less special nursing and shorter hospital stay.

DERMATOLOGY

By E. E. Brown, M.D.
Doctors Building, Nashville

Dermatitis Exfoliativa Arsenicalis: Report of Perivenal Extravasation. By C. F. Lehmann, M.D., San Antonio, Texas. Southern Medical Journal, June, 1931.

The author reviews theories regarded as the causation of exfoliative dermatitis from arsphenamine, as well as the experimental and clinical observations pertaining to development.

During the past eight years he has collected twenty-two cases and seventeen of them gave a history of perivenal extravasation before the onset of the dermatitis. The time interval between extravasation and the onset was given in fifteen of the seventeen cases. This varied from four days to three weeks.

Contribution to the Therapy of Alopecia Areata. By Drs. S. A. Glaubersohn and A. B. Posternak, Kieff, U. S. S. R., The Urologic and Cutaneous Review, June, 1931.

The authors refer to the method recommended by Djoritch of injecting milk into the bare areas of the scalp. They injected intradermally or subcutaneously several areas at each bald spot, using from three-tenths to five-tenths cc. This was repeated in from two to six weeks and they report six cases with satisfactory results.

INTERNAL MEDICINE

By R. B. Wood, M.D.
C. J. Carmichael, M.D.
Knoxville

Causation of Disease. Medical Journal and Record, April 1, 1931. By W. A. Lincoln, Calgary, Alberta.

Disease is defined as a "process or succession of disturbances induced by any agent which disturbs the normal activities of the organism as a whole, or of its constituent parts". "Symptoms are signs not of reaction to disease, but of altered reaction to life occasioned by disease—a very different matter." "Physical signs, however, are the evidence of tissue damage." The writer emphasizes the very great importance of interpretation of symptoms before damage to tissues is produced, thus giving physical signs. He greatly deplores a diagnosis of neurosis in any form, simply because we cannot find physical signs upon which to base a diagnosis. Many factors influence symptoms, as fear, anxiety, passion, memories, repressions, etc.

The greatest advance made in medicine was brought about through aid of microscope which led to the discovery of organisms which produce diseases and fully fifty per cent of our deaths are due to disease of microbic origin. "It has not produced any results in influenza, pneumonia, appendicitis, cholecystitis, meningitis, encephalitis, or puerperal septicemia, where in spite of our knowledge of the causative agent we have been unable to make any headway in their control." Dr. Lincoln pays due tribute to the workers in chemistry and biochemistry, which has enabled us to accomplish so much with the deficiency diseases. He ventures the prediction that the next generation of surgeons will have no goitres to treat. His hopes in the field of endocrinology are extremely optimistic. Turing the page he becomes pessimistic over our results as a whole.

Less than 10 per cent of us live out our expectancy. "From what do people die?" he asks, and answers that by far the larger number succumbs to that tread of degenerative diseases, heart, kidneys and vessels. Twenty-one per cent of all our deaths fall in this class and three-fourths of these are cardio-vascular alone.

Focal infections as causative agents have been found wanting in rheumatism and cardiac disease. He asks the question: "Is it not possible that we have been deceived" concerning focal infections? Speaking of rheumatism he states the disease existed millions of years ago and says he doubts if we know much more of its causation and certainly we can do no more in its prevention or treatment than in time of Hippocrates.

Pulmonary infections account for ten and one-half per cent of our deaths. What do we know about cause of common cold? The mortality from pneumonia is not much less than in the time of Galen. Deaths from appendicitis are increasing steadily each year and the death rate now is far in excess of that twenty-five years ago, notwithstanding the increased skill and number of our surgeons.

Dr. Lincoln sets forth facts which make us stop and think.

OPTHALMOLOGY

By Robert J. Warner, M.D.
Doctors Building, Nashville

Magnetic Intraocular Foreign Bodies: Localization and Removal With Giant Magnet. J. W. Jervey, Southern Medical Journal, March, 1930.

In cases in which the Sweet localizer cannot be used for localization of foreign bodies in the eye, the author places two small Cushing wire brain clamps on the conjunctiva 3 mm. above and below the cornea in the vertical meridian. This gives two fixed points for localization. Antero-posterior and lateral pictures are then taken to determine the sector and the relative position of the foreign body in the sector. The eye must be kept in the primary position while the x-ray record is being taken, and a true anteroposterior and lateral view must be obtained, otherwise the error will be so great that the method will have little use.

A Short Study of the Complications of Cataract Extraction in Egypt, With Some Practical Suggestions. H. Peretz. British Journal of Ophthalmology, January, 1931.

Cataract in Egypt is probably as frequent as in any other region, but is complicated by many other diseases of the eye. Thirty per cent of patients over forty-five years of age have only one eye. Furthermore, many patients present obscuring defects such as dense leucoma. Fully ninety per cent of the cases present surgical difficulties due to complications.

Trachoma and its sequelae are of frequent occurrence, and conjunctival infections, lacrimal complications, glaucoma, retinal detachment, arteriosclerosis, myopia, and corneal infiltrations are frequently encountered. Tarsectomy cases present especially difficult situations. Forty per cent of aged patients are glaucomatous, and for this reason it is unwise to permit a case of incipient cataract to remain for too long a period without being examined. The discomforts of summer make winter the most desirable time to operate.

OTOLOGY, LARYNGOLOGY, RHINOLOGY

By W. G. Kennon, M.D.
Doctors' Building, Nashville

The Relation of the Para-Nasal Sinuses to Ocular Disorders, Especially to Retro Bulbar Neuritis. Sanford R. Gifford, M.D., Chicago. Archives of Ophthalmology, February, 1931.

The most interesting phase of this subject is the relative importance of the paranasal sinuses in the causation of retrobular neuritis. This question may be resolved into three principal parts: What percentage of cases of retrobulbar neuritis are caused by sinusitis? Can retrobulbar neuritis be caused by diseased sinuses giving no evidence on rhinologic or x-ray examination; if so, what is the pathology of the disease of the sinuses? In the presence of retrobulbar neuritis of unknown cause and with no evidence of sinusitis, should exploratory operation be advised?

The first question has received widely varying answers.

Herzog found definite sinusitis in four of twenty-eight cases, while results of nasal treatment in twelve others led him to consider about half as due to sinus disease.

Meller found 4.5% which he considered rhinogenic among cases observed in Vienna during two years.

Scheerer and Maier reported 203 cases from the Tubingen clinic, seen during eight years. They found definite multiple sclerosis as the cause in 66%. Suspected multiple sclerosis in 5%. Tobacco and alcohol, 5.5%, and sinusitis, 1.5%.

The variation in percentages from one and one-half to fifty, or more in the figures of different observers as to the causative factor in this disease is rather striking.

After Sluder described hyperplastic ethmoiditis and sphenoiditis, the rhinologist was no longer able to give a negative report in the absence of pus or polypi in the nose.

A few dramatic results, such as often occurred, supported those who felt that something radical must be done at once. The possibility of spontaneous recovery like that seen by Weil, Scheerer and others, was apt to be disregarded. Under such circumstances it is easy to fall under what Kalt calls a "Therapeutic Illusion." White stated that his first seventeen cases were all considered as due to sinusitis, while later experience led him to consider the sinuses as only one of the infectious foci and a relatively unimportant one. In only six of seventy cases was ethmoiditis found, and most of these had other foci which were also considered important. The results of treatment directed to other foci, such as teeth, tonsils, et cetera, were equally as good as those in his earlier series; 50% regained normal vision and 25% improved, while 25% remained stationary. Not many such large series of cases have been reported by Americans, but cases have been frequently recorded in which the etiologic importance of sinusitis in optic neuritis was considered proved. Cushing went to the opposite extreme, apparently doubting the rhinogenic origin of any of these cases. Of thirteen seen by the author during the past two years, three were attributed to multiple sclerosis and four to purulent sinusitis. The causative factor was undetermined in the remaining six. A nasal origin was considered probable in most of these, all but one responded to nasal operation or treatment with visual improvement, although in one case no nasal disease was found, and in the others no definite sinusitis. Such a series shows how inconclusive any opinion would be, without more exact records of nasal disease than were recorded in our observations.

A number of observers examined patients who had definite sinusitis, for evidence of optic nerve involvement, such as enlargement of the blind spot and central scotoma.

Markbeiter found 70% of a series showed field defects. Enlarged blind spot was found in 31 of 102 cases by Bordley. Beck and Pillat in 6 of 53 cases of purulent sinusitis, 4 of 65 cases of nasal anomaly causing poor ventilation, and in 8.5% of 47 normal persons. In 500 patients examined by Herzog, definite signs which he considered significant of disease of the nerve were found in only 2.6%. In proportion to the number of cases, these definite signs were at times as frequent in acute as in chronic sinusitis. He concluded that slight changes which have been reported are not indicative of nerve involvement. A considerable number of cases have such involvement without being noticed by the patient. Most of these defects disappear with subsidence of the acute sinusitis, some nerves are permanently damaged, and in this perhaps lies the explanation of a number of cases of optic atrophy which are discovered later.

The opinions as to the frequency of rhinogenic retrobulbar neuritis are at variance because of several reasons. Many observers consider recovery of vision after nasal operation as definite proof that the sinus disease was the causative factor. Others who have watched cases of similar nature clear up spontaneously insist that the result would probably have been the same without surgical intervention; they, therefore, refuse to consider sinusitis as a cause without gross evidence of sinusitis.

Confusion is caused also by the failure of observers to have in mind the frequency with which multiple sclerosis produces loss of vision as its first symptom. This may clear up completely with or without operation on the sinuses and no other symptoms develop for years. The point of view that all cases of retrobulbar neuritis are due to multiple sclerosis where empyema of the sinuses cannot be demonstrated may, however, be equally erroneous.

Which opinion is to be accepted, depends upon what pathology is caused in retrobulbar neuritis by sinus disease. Here one meets a great deal of theorizing and a few valuable studies. In nine cases reported by White with tissue examinations by Wright, there was found edema, fibrous hyperplasia and chronic inflammatory changes in the mucosa, which sometimes involved the bone. In some cases this was considered to be evidence of involvement of the nerve by direct extension. He revised this opinion later and considered the changes in the tissue too slight to support this opinion. In 1928 he stated, "I have never seen a case, except in malignant disease of the sphenoid, where I thought there was direct extension from the sinuses to the optic nerve." Believing that the infection was almost exclusively by the hematogenous route, he considered infection of the antrum as important as that of the ethmoid. He considered a few cases to be due to hyperplasia of the turbinates, resulting in obstruction of the ostia; the ensuing negative pressure within the sinuses favoring absorption of toxins and bacteria from the blood.

O. Beck in four cases found the mucosa infiltrated with eosinophiles and plasma cells. He believed this should be interpreted as result of negative pressure in the sinuses producing an inflammation which may affect the optic nerve.

Bordley's experiments seem significant. In eight cases of sphenoiditis with normal blind spots he placed tampons over the sphenoidal ostium. Following this procedure two cases showed changes in the fields. One case showed marked increase in the blind spot and five hours later a relative scotoma which cleared up on removal of the tampon.

Oliver and Crowe reported ten cases in which tissue was examined and infiltration of the mucosa and submucosa with eosinophiles and plasma cells was found. Bony changes were not described. These cases were all considered rhinogenic, after careful exclusion of other causes. On examination with the nasopharyngoscope they observed hyperemia around the ostia in all instances. Herzog tried to show that invasion of the nerve sheaths may occur in a large number of cases, some with negative nasal and x-ray indications. He sectioned the turbinate and ethmoid walls removed in a number of such cases. His studies of the normal histology showed the intimate relationship between the dural nerve sheath and the cortical spaces of the bony partition between it and the ethmoid and sphenoid cells. In twelve cadavers he found all stages between a dense bone with few cortical spaces and a less common type with thin cancellous bone in which the cortical spaces provide free communication between the ethmoidal submucosa and the nerve sheaths, which form its periosteum and send processes directly through these cortical spaces to the submucosa. It is the rarity of this type which, in his opinion, accounts for the relative infrequency of optic neuritis in cases of sinusitis. In cases of optic neuritis which are relieved by nasal operations he found the picture caused by chronic productive osteitis. In several cases, where operation failed to cause improvement, he found the sinus walls normal. "It must be our duty," he stated, "to explain the histo-pathology of rhinogenic disease in optic neuritis." He believed there was direct extension of the inflammatory process to the nerve sheaths through the vessels and cortical spaces of the sinus walls. The effectiveness of his treatment he believed rested on the reduction of this oedema and inflammation in the bone and on the hastening of the absorption which takes place spontaneously in most cases of sinusitis.

The few attempts to produce retrobulbar neuritis in experiments on animals have been unsuccessful. Meller in reviewing the subject in 1924, emphasized the importance of the pathology described by Herzog and quoted Neumann's opinion that the slight temporary nasal inflammation following acute coryza, is more apt to produce optic neuritis than is chronic sinusitis with polypi and other gross nasal changes.

Hirsch described histological findings, in five cases, which much resemble those of Herzog.

In how many cases in which no definite etiology is found does it occur? This will not be known until a large number of cases have been more carefully studied.

In cases where operation is decided upon all other causes of the neuritis should be carefully excluded. It must be admitted that multiple sclerosis causes at least half, and probably more, of the cases. Careful neurologic examination should be made in every case since the finding of one other sign, such as loss of abdominal reflexes, would offer good evidence for a diagnosis of multiple sclerosis. This examination should include lumbar puncture, since according to Stewart, 70 per cent of cases show a characteristic colloidal gold curve, and 40 per cent an increased cell count. Acute myelitis which is perhaps an acute form of multiple sclerosis, must be considered. These cases should be considered as emergencies, and the various examinations should be made at once without waiting reports in order to avoid loss of valuable time. When cases whose probable cause is definitely determined are eliminated, from 15 to 20 per cent will remain in which all examinations are negative. In such cases a delay of a week or longer is proper, as many patients show spontaneous improvement. It is not necessary to spend this time in inactivity. Sweats and injections of foreign proteins have been credited with good results.

Since the report of Herzog appeared, the treatment advised by him has been widely used with results, in many cases, as brilliant as those of operation. White's use of 3% spray of ephedrine every three hours probably accomplishes the same result; Herzog's procedure consists in packing the region of the ethmoid and sphenoid ostia, twice daily, with gauze soaked in epinephrin, the pack being left for two hours. Von Herrenschwand reported thirteen cases in which good results were obtained by this means alone. Herzog's results in known cases of multiple sclerosis were negative. In doubtful cases he uses the method for diagnosis believing that response would be obtained only in rhinogenic cases. When failure occurs after primary improvement, he advises opening the sinuses or improving their ventilation by turbinectomy. When no improvement occurs under general or local treatment, the time to wait before operating depends upon the degree of visual defect. If the visual defect is great and blindness threatens, most ophthalmologists would probably advise operation after a week of observation. White believed that 50% of patients recover spontaneously, 30% require submucous resection, or turbinectomy, and about 20% require free opening of ethmoid and sphenoid cells.

As long as atrophy of tne disc has not occurred there is justification for operation when nasal disease is suspected.

SUMMARY

1. Multiple sclerosis probably accounts for over 50% of cases of retrobulbar neuritis.
2. Purulent sinusitis accounts for about 3.5%.
3. Opinions differ as to whether or not latent or hyperplastic sinusitis accounts for the 15 or 20% of cases for which no cause can be found.
4. There is pathologic evidence that such forms of sinusitis may cause retrobulbar neuritis.
5. Before operations are done on such cases every effort should be made to eliminate other causes, particularly multiple sclerosis and brain tumor.
6. Tissues removed at operation should be examined histoligically in order to promte a better understanding of the whole problem.
7. With our present knowledge and diagnostic methods there will still be a number of cases in which exploratory operation on the sinuses will be indicated.

PEDIATRICS

By John M. Lee, M.D.

Doctors Building, Nashville

Iron and Copper in the Treatment of Anemia in Children. Milton S. Lewis, M. D. Jour. A. M. A., April 4, 1931.

Iron alone is sometimes inadequate to bring about blood regeneration in certain types of anemia. Hart, Steenbock, Waddell and Elvehjem found that on the addition of copper to iron, regeneration occurred rapidly. Other observers have confirmed these findings, both experimentally and clinically.

Lewis studied thirty-four children at the Tennessee Children's Home, ranging from six months to 7 years of age. They were given for three weeks or more sacchcarated ferrous carbonate, 15 to 60 grains daily. After this period of observation a 0.5 per cent solution of copper sulphate was added, giving from 1 to 2 teaspoonsful three times a day. Estimations of hemoglobin and red blood cell counts were made each week throughout the period of study.

Before the addition of copper the average hemoglobin was 45, and average red blood cell count was 3,000,000. After the addition of copper the averages were, hemoglobin 85, red blood cells, 4,700,000. The response of the blood to the addition of copper was prompt. The clinical improvement was more gradual, this being evidenced by increase in appetite, gain in weight and general well being. No case of nutritional anemia failed to respond. Cases showing foci of infection showed no improvement from this medication until after the infection was removed or had subsided.

Fifteen of the patients studied were followed for six months after treatment and in them the hemoglobin and red blood cell counts were normal.

SURGERY — GENERAL AND ABDOMINAL

By John L. Dies, M.D.
1213 Exchange Building, Memphis

Fractures of the Upper End of the Humerus. Gordon, Donald. The Journal of the American Medical Association, 96:331. Jan. 31, 1931.

The initial step in preventing injury to the soft parts is to put the shoulder at rest by immobilizing the limb when first seen. A large thick axillary pad of nonabsorbent cotton batting or its equivalent is used to fill the space between the body, arm and elbow. The forearm is flexed across the body; a sling of muslin bandage used for the purpose supports the wrist, and another lighter pad is applied to the outer surface of the arm which protects the skin and prevents pressure on the lymphatics.

There are those who believe that in most fractures of this region, function will be recovered more quickly if they are treated in the abdncted position. This dictum should be briefly analyzed. It is necessary to use this position to maintain reduction, the abductors and elevators atrophy long.

Reduction should be made before the hemorrhage fills the spaces made by the displaced fragments and before the edema has so distended the muscle compartments that the elasticity of the muscles has been lost. Every second that the reduction is delayed following a fracture, these factors are working against success.

Manipulations maneuvers will be fruitless unless performed with complete anaesthesia, whether this is brachial block or general inhalation.

Traction is applied by means of a wide muslin bandage, the middle of which is attached to the limb by throwing a Collins' or similar hitch about the wrist, which has been protected by a folded sheet about the thorax.

Intrinsic traction is the term employed when the weight pulley is attached to the supporting splint. Suspension weight need only be equal to the weight of the limb, but the axis of the arm and pull must be the same. These two methods can sometimes be combined.

How long should a dressing be left on? Any retention dressing or traction should be left on until there is no tendency to displacement on general manipulation of the fragments. Following this period such dressings should be left on as will prevent the extremes of any movement allowed by the degrees of progress. Atrophied muscles are unable to arrest the extremes of any movement allowed by this swinging lever without the production of pain.

In the first few days, the judicious use of an ice bag or heat to the shoulder affords comfort. The early cooperation of a physician trained in physical therapy to advise and direct the use of the indicated modalities can be aided by the suitable arrangement of dressings to permit these procedures. Great care should be taken to avoid any massage that is followed by a painful reaction. If this is preceded by hot stupes, the author thinks that there is more relaxation and relief than with radiant heat.

The exercises to be used when due are as follows: The patient stands leaning forward, the weight supported by the uninjured arm resting on a table's edge. The affected arm is allowed to hang down in a vertical position with the shoulder muscles relaxed. He sways the body, thus swaying the relaxed limb forward and backward, then laterally, then in circles with and against the clock. This is done in arcs of a few degrees and inside the threshold of pain; quality and not quantity is sought. This gently stretches the muscles of the scapulohumeral joint. It is pure pendulum motion, and this is amplified until the arm reaches the equivalent of the horizontal plane of the erect position. Then movements are gradually changed to slow movements, which must be voluntary, duplicating the former swinging movements. This gives coordinated muscle movements while the weight of the limb affords traction, and the disadvantage of the horizontal lever action spoken of previously is avoided. Should the patient be bedridden at this stage, the limb can be supported by a long sling supported by a high overhead suspension, and abduction movement carried out as is done with the leg following the fracture of the hip. This relieves the shoulder muscles from supporting the weight of the horizontal limb while the muscles are weak. All these movements must be in the scapulohnmeral joint, and the scapula should be watched to see that it moves as little as possible, even if it has to be fixed by the instructor's hand holding the anterior border. Later resisted abduction movements of the arm with the resistance proportional to the weakened musculature will make the patient fix the scapula before abduction at the scapulohumera joint can take place. This is an excellent test for the malingerer at this stage of repair. Climbing the wall as usually performed does more to interfere with scapulohumeral movement than anything known. The patient fixes this joint and proceeds to carry out the movement by scapular action, hunching the shoulder, thereby developing the abductors more than the elevators. The limb should be abducted or extended by the fingers pulling on the rings of a small ladder suspended on the wall, with the shoulder joint relaxed. The limb should not be dropped suddenly from the altitude reached but gradually lowered by the fingers.

If contracture develops in the abductor group of muscles, the arm is stretched about twice a week. The patient should lie on a table, the operator's left forearm hooked under the hooked right arm of the patient, or vice versa, according to the injured arm, the patient relaxing; this allows the weight of his forearm to be supported on the operator's forearm with the latter's same hand exerting traction on the arm of the patient. The operator's other hand is used to fix the anterior border of the scapula. The patient's arm is then extended forward and upward on the scapula at an almost imperceptible rate until the abductors are put on a tension and gently stretched just beyond the pain threshold. The arm is then returned to the side in slight abduction and traction applied with the hand for a few seconds until pain is relieved. This should not be done until the bone is well united late in convalescence, when delayed function is due to muscle contracture, and should never be done under an anesthetic.

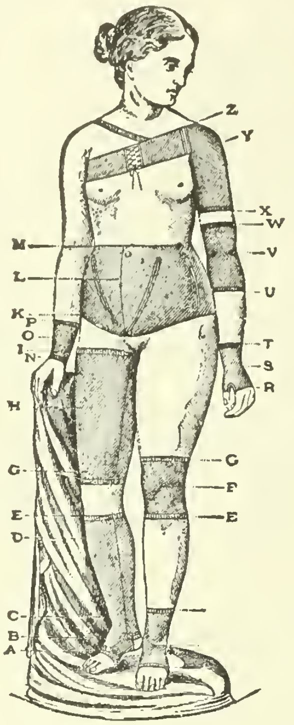
In directing exercises, the physician should make sure that the patient does not hunch the shoulders, which is due to scapula, but should insist on pure scapulohumeral action within pain limits. The patient should look in a mirror to see the difference between the two movements. Adhesions in the shoulder joint must be blamed for loss of function due to muscle contracture which has developed and can be treated.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,
and F. K. Garvey, M.D.
Medical Building, Knoxville

The Nephritis of Early Syphilis. John H. Labadie. Northwest Med. 27:564, 1928.

This patient presented a very interesting diagnostic and therapeutic problem. Inasmuch as the type of treatment to be used depended largely upon the etiology of the nephritis, the importance of establishing the latter was obvious. There were three possibilities to consider: First, the patient was suffering from a chronic nephritis. This was ruled out by the following factors: The acute onset, the absence of anemia as shown by the normal blood picture, the normal blood pressure, the absence of cardiac enlargement, the ability of the kidneys to concentrate urine to .020, the diminished urinary output and, lastly, by the character of the findings on examination of the urine. A second consideration was that the patient might have an acute exacerbation of preexisting, perhaps latent, chronic nephritis. Against this was the authenticated report that she had only a few months before passed through a normal pregnance without evidence of any impairment of kidney function. Had there been marked kidney damage prior to that time, one might reasonably expect it to have become manifest under the extra strain thrown upon the excretory organs by such a process. The last probability was that the patient was suffering from an acute nephritis, either toxic or bacteriologic in origin. Because it was elicited in the history that the patient had been using a vaginal douche, the possibility of an acute mercurial intoxication was entertained. The fetor oris and slight gingivitis found on physical examination of the patient were presumptive evidence in its favor. However, the character of the urinary findings ruled against this, for in cases of acute mercurial nephritis examination of the urine reveals only a slight to moderate albumin content with a marked preponderance of casts of all varieties, thus showing the pathologic process is essentially a necrosis of tubular epithelium. Subsequent inspection of the medicament proved it to be of potassium permanganate and not bichloride of mercury. Careful examination of the patient failed to reveal a possible focus in the teeth, tonsils, or sinuses, which might serve as the portal of entry for a streptococcic infection. Therefore, by a process of exclusion, in the presence of an active secondary syphilitic infection, and because of the typical urinary findings, a diagnosis of acute syphilitic nephritis was made. The subsequent course of the process under antisyphilitic therapy confirmed the diagnosis.



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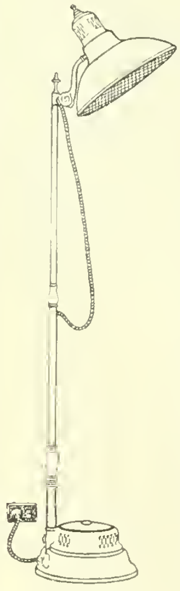

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CONSERVATIVE TREATMENT OF ACUTE SINUSITIS*

Robert Sullivan, M.D., Nashville

THE subject assigned to me has for its purpose a plea for conservatism in the management of acute infection of the paranasal sinuses. The discussion will in no way be connected with chronic diseases, yet the subject in its broad sense might hope that with more sensible non-operative treatment of the acute condition, fewer cases would become chronic, thereby necessitating operative measures which are not entirely satisfactory to the surgeon and often very disappointing to the patient. The expression "sinus disease" has become a dreadful thing to the people and largely due I believe, to the impression that all sinuses must be immediately operated upon, and for this reason they so often neglect the acute sinus infection, permitting a chronic condition to arise.

I shall briefly discuss the mucous membrane lining of the paranasal sinuses—they are lined by a mucous membrane directly continuous with that of the nasal fossa. The mucosa is composed of stratified ciliated columnar epithelium and lymphoid elements resting on a very delicate basal membrane.

In spite of the extreme delicacy and thinness of the mucous membrane of the sinuses and its firm adherence to the periosteum it is readily influenced and greatly thickened by pathologic processes, especially is this true around its openings or ostia due to looseness of structures at these points.

The current produced by the cilia of the epithelium is toward the respective ostia or apertures of communication with the nasal fossa. Yates in his experiments on the cilia of the sinuses has proven by using .4 per cent indigo carmin in normal salt solution at body temperature that the colored fluid followed a definite path as follows: Along the upper part of the middle turbinate then outward and downward to soft palate and posterior wall of pharynx. The ciliary action in cases of sinusitis was somewhat different. When mucous or pus is present in any of the sinuses the rapidity of the flow of the indigo carmin solution may be greatly modified—the reason being a partial or total paralysis of the cilia; this I believe a very sane and important conclusion, and its clinical aspect is that if a sinus is given an opportunity to drain before the cavity becomes filled with thick pus thereby paralyzing the cilia and slowing up, if not a stoppage, of normal flow, the sinus may eventually empty itself and the cells and mucous membrane become normal in function. This brings up the question of the dangers of destructive surgery whereby one might destroy the cilia and prevent its ever resuming its physiological action.

To quote from Dr. E. R. Lewis: "While there may be some differences of opinion regarding the relative efficiency of certain details of treatment there seems to be little doubt that many so-called 'sinus cases' after undergoing long series of operative and non-operative rhinologic treatments, find themselves not only no better, but definitely worse."

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16, 1931.

To quote Mosher: "You can make them continuous cases and by operative interference you can make them permanent cases. Once a sinus case, always a sinus case."

Skillern says regarding ethmoid cases: "We have already learned that by applying surgery we have only been cohabiting with Chimeras and begetting specters, for who, indeed, has ever contemplated an ethmoid some months after a so-called complete exenteration with its conglomerate mass of hypertrophied and scarred mucosa fibrous tissue and bone bathed in pus and carpeted with crusts."

Goldsmith: "Recourse to surgery is usually a sad disappointment for frontal sinusitis. Attempts to probe or irrigate do more harm than good."

The general impression and unfortunately the usual procedure is if you find actual pus, some operation must be done. This I cannot agree with if it means the destruction of normal essential tissues—in the first place it does not follow that if you have found pus it will be present the next examination. Suppuration is not permanent and may not be of long duration. It can surely be removed by natural processes if you will assist in promoting drainage by normal route or sometimes without any aid from you. In any event do not complicate by eliminating the only chance left—that is the ciliated epithelium.

I shall endeavor to outline a conservative routine of treatment. No doubt some of the cases must have a very minor operation to assist drainage in the nose. This may be caused by nasal polypi, adhesions, defected septum, rarely, and frequently adenoid tissue. This, of course, must be corrected. Maxillary sinusitis, of dental origin, should have the infecting tooth removed. The infection may subside.

Non-Surgical—Exercise except in very acute stage with temperature. The best exercise to my mind is outdoor and not too spasmodic—regular, systematic.

Diet—Selection of foods known to agree and avoidance of the opposite; foods with adequate vitamin intake especially A. & D. and not just during an attack but throughout the year.

Shurly's paper on "Deficiency Diet in Relation to the Skeleton," especially in connection with the bone affection of the head, in his opinion, clinical findings and the laboratory of nutrition in particular, prove that the bony affections of the head are profoundly influenced by the supply of vitamins, especially A, C and D, and the ratio of phosphorus and calcium.

CONCLUSION

I. Acute paranasal sinusitis is an attack caused usually by an acute rhinitis and that the prevention of colds will lessen the dangers of sinus infection.

II. Acute sinusitis in children is a frequent occurrence, usually not recognized, and often can be controlled with proper diet.

III. Suitable treatment early to prevent the cases becoming chronic.

IV. The treatment is drainage promptly without surgical intervention. This can be accomplished by shrinkage of the turbinals and cleansing the nose.

Fluids—The intake should be a glass every hour.

Alkalization if it can't be accomplished by diet.

Salicylates for the control of pain, sometimes codeine if aspirin will not relieve.

Physiotherapy—Heat is the best and most available.

Instructions to patient about hard nose blowing and advise to remove secretion by suction down nasopharynx and expectorating; the avoidance of all nasal douches in early stage or insufflations of water while in swimming.

The early stage or onset of sinus infection, the patient is better off in bed; at least indoors. I believe rest at home with alkaline diet until acute symptoms subside—medication for pain; care in blowing the nose, will usually relieve the initial stage better than intensive nasal treatment. Nasal spray may be advised. Later if drainage is not sufficient the symptoms can be relieved by office care.

The nasal cavities should be tamponed with 1 per cent solution of cocaine. Adrenalin may be added unless patient is sensitive to the drug.

After shrinkage has taken place, nares can be irrigated with normal saline solution at body temperature—then nebulizer for three minutes with oily spray, negative pressure may be beneficial and tampon with neo silvol for thirty minutes.

Diet—One of the most important factors in the prevention of sinusitis is diet and not until recent years have we listened to the cry of men like Stucky, Coffin Dean and others.

The findings of Dr. Stucky in his journeys through the mountains of Kentucky, where the people were sadly lacking in a balanced diet, and the marked improvement in the condition of nose and throat cases when a sufficient vitamin diet was given for a period of weeks, and the recurrences seen when the diet was neglected. One of his most recent contributions is a paper entitled "Deficient Vitamin Diets as a Factor in Otolaryngological Conditions". Research workers have shown by experimentation and observation that protective foods are the natural whole grain, milk, eggs, roots, greens, nuts and fruits. The most important being milk, vegetables, a leafy salad and fruit. Added to these mineral salts.

The diet advised by Stucky is one quart of milk daily, one egg, whole wheat bread for two meals, butter, 3 vegetables, not potatoes, cereals, 3 fruits, one of which is raw, meats, and for children, if there are signs of vitamin A deficiency, 2 teaspoons Cod Liver Oil daily.

Dr. L. W. Dean in his contribution "The Relation of Diet to Diseases of the Sinuses." Dean demonstrated clinically that cases of incipient nasal infections treated with a diet rich in vitamin A can be favorably impressed if administered with orange juice and a large amount of vitamin B secured from wheat kernels.

These investigations strongly set forth the value of proper diet in sinus disease, especially of children in connection with suitable local measures and proper hygienic conditions while these observations apply largely to children. Dean believes they are also true in adults.

DISCUSSION

DR. H. K. CUNNINGHAM (Knoxville): I was very glad to hear Dr. Sullivan give a plea for conservative treatment of these conditions. The day of radical treatment for nose conditions, I hope, is over. I noticed in visiting the European clinics that they are still pretty radical in a good many of those clinics. The day of reaming out the nose is over, and any doctor who does this is guilty of meddlesome surgery, to say the least of it, because the dry nose that you get following these conditions is much worse than the condition itself.

Of course, we treat acute sinusitis and chronic sinusitis differently. An acute sinus condition with pus in the maxillary sinus, we nearly always cocainize beneath the inferior turbinate and use an ordinary trochar and cannula to wash it out. It is a simple procedure. A number of doctors use the normal opening to irrigate, but I think that using the Coakley trochar and cannula, getting the thinnest part of the medial wall of the maxillary sinus and pushing through the bone and washing them out, is much the simpler procedure, because if you use the normal osteum and have thick pus in there, it is very hard to get it out that way. You can generally clear these conditions up in two or three washings with normal saline. If you don't, about the fourth or fifth time you can use peroxide of hydrogen or you can run mercurochrome through there, or alcohol. Of course, that does a good deal of damage to the mucous membrane if you use too strong an alcohol solution.

Many times you can clear up these chronic cases in that way if they won't clear up with the normal saline solution.

A number of these cases come to us complaining of intense toothache. They have been the rounds of the dentists and they can find nothing wrong with the teeth. You transilluminate them and find that the sinus on that side is dark. You wash them out and get pus, and they will get immediate relief from the toothache.

Heat, as Dr. Sullivan said, is very beneficial. I use the ordinary infra-red light. I am like him, I don't claim any special benefit from the infrared; I believe it is just the heat that does it. You could get over a gas heater and get just as much result, probably.

We do not use suction very often. We don't think much of it. We believe you can shrink them down and get the normal drainage established and get just as good results as you can with suction.

It is very hard to do anything with children except to use the tampons. I think you get the best results in children with a mixture of glycerin and a little ichthyol in an organic silver preparation, pack the nose, and let it stay packed a good while; the longer they stay the better. If you can let them stay fifteen, twenty or even thirty minutes, it will give great relief. I think that is the best treatment for children, because it is very difficult even to examine them in many cases, because they won't let you touch them without a struggle.

I certainly appreciated Dr. Sullivan's paper very much.

CLOSING DISCUSSION

DR. ROBERT SULLIVAN (Nashville): I have nothing to add except to thank Dr. Cunningham for his discussion. I think we are entirely in accord, except perhaps on one thing, irrigating the antrum for pain. When you can't relieve the pain the drainage will not take place in its normal, natural way. I am glad he mentioned the fact that if you do have to irrigate, you irrigate not through the normal osteum. I think that is all right if you accomplish it, but I think it produces a little bit of swelling and perhaps blocks what you hope to accomplish by your irrigation.

My reason for bringing this before the Association was to try to impress upon the men in general practice that there is such a thing as conservatism in otolaryngology. I don't believe I noticed today on the program of our section one paper concerning any surgical procedure. We have gotten away from ethmoidectomies, sphenoidectomies, tonsillectomies.

SOME PRACTICAL POINTS IN THE MANAGEMENT OF TUBERCULOSIS*

C. D. COLBY, M.D., Asheville, N. C.

IT WOULD seem logical in any discussion of the care of the tuberculous, that the first items should be where the patient would take the cure, using "cure" in this case as do the Germans. To them it means everything that is done by the patients, or for the patients, from the time they come under care until the time they are discharged, including location and every other therapeutic measure used towards their recovery.

It has been generally conceded by authorities on the subject that the ideal elevation above sea level is between 2,200 and 2,800 feet, with an equable climate, but variable enough to be exhilarating, and with no extremes of heat and cold, with plenty of sunshine; free from severe windstorms, and the air carrying enough ozone to be slightly stimulating. The plateau in Western North Carolina, lying between the Blue Ridge and the Balsam range, fulfills these requirements more completely than any other location of which we have knowledge.

While speaking of ozone, I wonder how many of you have lived on a farm in cold weather? I wonder how many can remember on a wash-day, after the laundry had been hanging on the line in weather just above freezing, when late in the afternoon the laundry would be brought in slightly damp and stiff with cold and stacked on a basket in the kitchen, and that before it was brought in the kitchen was filled with the mixed odors of cooking and the other kitchen work; that after the laundry had sat in the kitchen for twenty minutes to half an hour, with the doors closed, the air would be as fresh as the out-door air, and the odors all gone? The explanation for this is that wind blowing over damp surfaces at certain temperatures seems to release the nascent oxygen in the air, and that it is apt to cling to moist surfaces near the grass covered ground, or the foliage on the trees, and the breezes then disseminate that oxygen as ozone into the air, and it is ozone thus released from the cold, damp laundry when it gets into the warm kitchen that oxidizes all of the odors of the kitchen. The plateau just mentioned probably carries more ozone in the air the year around than any other location in the United States. You may gather from this why we believe in our location as exceptionally favorable to recovery from pulmonary diseases in which the lung space is curtailed.

The second item in the discussion is naturally the conduct of the patient himself. Many years of attempt at cures for tuberculosis in the way of medicine, etc., have thus far proved futile, and the men who have done the most and hardest work among the tuberculous have all decided that absolute bed rest in the open air is the only method.

Now, having put the patient to bed in the open air, on a three-sided porch, preferably south, southeast or southwest exposure, in a good location in Western North Carolina, we are ready to take up the symptoms which the doctor and the nurse have to fight. The first thing is the impatience of the patient. That is a psychological proposition and as there is no uniformity in the expression, the patient becomes a new study, and the nurse and the doctor will have to dig down in their gray matter for methods to keep the patient in line.

Time is a most important item. It is better that the patient stay in bed three months longer than is absolutely necessary to start good scarring than that he leave the bed three minutes too soon. One of the first symptoms that the physician will notice is temperature. Volumes have been written on the temperature of the tuberculous, and more volumes could be written. It is for us to mention but a few of the causes. The patient's own attempt at chemotaxis is one; his autogenous tuberculin. The mixed infection which has assisted the tubercle bacillus in his inroads. In any attempt to reduce the temperature it must be remembered that coal tar products are dangerous; that salicylic acid, any of its salts or any of its esters, are to be avoided, as it takes very few doses in many cases to put the periphery of the lung in such condition that the sputum will become pink, and if pushed too far there will be a true hemoptysis. Many times the temperature can be reduced by a very carefully made autogenous vaccine from the mixed infection in the sputum if you can prove that the sputum comes from far down in the bronchial tract. A clean bowel; plenty of good, clean drinking water; cool applications to wrist and temples —sometimes to neck—and sometimes a small dose of Dover's Powder with sweet spirits of nitre will reduce the temperature. A very careful search should be made for any possible focus of infection other than the lungs. The nasal accessory sinuses may contribute to temperature elevation, or infected tonsils—and I need mention no more.

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*Read before the East Tennessee Medical Association, Cleveland, Tenn., Oct. 16, 1930.

Pain in tuberculosis is usually due to pleurisy or to some acute flare-up in bronchus or in several bronchi at once. Lung tissue, itself, carries no nerves of pain sense, so that pain, with few exceptions, is due to peri or intra bronchial congestion, pleural congestion, or intercostal neuralgia. It may be toxemic or mechanical, and the relief may be counter irritation or sedation. Empirically, in the years gone by, many forms of counter irritation have been used on the chest wall for pleurisy, bronchitis and pneumonia of different causes, with no explanation as to why it relieves. Professor Howell, of Johns Hopkins, was the one to demonstrate that each bronchial branch, down to the finest, carried a fine, autonomic nerve filament rising from a center back of the chest, close by the centers which supply the skin over the area to which the bronchial branches were distributed. The number of remedies in counter irritation that have been used by physicians in years gone by is legion. There are a few which are very efficacious and without much discomfort to the patient. There are certain local congestions which are relieved by small fly blisters; others which call for mustard plasters, but in the use of mustard plasters the physician must be sure that it does not go over an area that is liable to bleed. Antiphlogistin, properly applied, is many times of great relief, but not one nurse in a hundred will prepare it properly. It should be heated in the can; spread on a thin cloth, the antiphlogistin raw put against the skin —keeping the cloth to the outside—and this cloth covered with heavy waxed paper or oiled silk. We are in the habit of suggesting to the housewife and to the superintendents in the sanatoria, to save the waxed paper off the bread for use in these cases. On top of the waxed paper can be placed whatever one wishes to use to hold the heat— many folds of cloth, or a thick layer of cotton—preferably the old bat. Applied in this way the antiphlogistin will stay wet three times as long as it will without the paraffin, and it doesn't muss up the bedding. When removing one can begin at one edge of the plaster, rolling it in toward the skin, and carry with it all the debris rolled inside.

We have a favorite prescription of our own which two or three of our druggists are adept in putting together, which carries about 35 per cent of white wax; 15 per cent each of oil of wintergreen and menthol; 1 per cent of oleoresin of capsicum; 15 per cent of water and enough anhydrous lanolin to make 100 per cent. It takes an expert pharmacist to put this together so that it will not separate. A very little of this, well rubbed in, relieves congestion and pain, not only of the chest but of joints, and, on the neck, of pharyngitis. It will not blister. Of course, every cough under the above circumstances increases the pain, and this naturally leads us to a discussion of the cough.

With much sputum there must be a certain amount of cough, and it is not well to withhold all of it, or suppress it with drugs, but the patient's nightly rest must not be broken by too much coughing, therefore, the physician will hunt for some sedative in the use of which he will run no risk of producing a habit, and it will take a little different formula for each patient. No wonder we get gray and baldheaded. We have two or three mixtures for the different characters of cough. Some of them contain bromide as the main drug; another small doses of codein in the mixture containing minute doses of chloroform; another containing small doses of codein in a mixture containing small doses of chloroform and very minute doses of dilute hydrocyanic acid in proper vehicles. These are usually given at bed time and maybe one or more times during the twenty-four hours in excessive cough. Sometimes a mixture of a small dose of luminol soda, with a small dose of codein in an appropriate vehicle will work wonders, when neither of them alone will do much good. The patient must never know the contents of his cough medicine. Ammonium chlorid, and usually ammonium carbonate, must be avoided unless you wish to drown your patient in his own sputum. Here again, there are cases in which the cough is relieved by the use of autogenous vaccine. It might be well to mention here that a very important item in the care of your patient, especially if in his own home, is the protection of the rest of the family. The choice of a sputum cup then becomes a question for the doctor to settle. While on the subject of cough and sputum—just a word about the throat. We have no time to discuss at length the causes of the cough. This we had before you four or five years ago. The irritation in the throat must be looked after very carefully, and the throat examined at regular intervals, as tracheal and laryngeal tuberculosis are nearly always secondary to pulmonary. The pain of a tuberculous throat on swallowing is usually relieved by insufflation of an orthorform emulsion. Sometimes an application of butyn is required, or anesthesin. It should be done just before meal time, but long enough for it to become effective, and in that case the meal must be served on time.

Going again to the pain of pleurisy—just a word as to why pleurisy. Probably 95% of the pleurisies are tuberculous, and many times it is the first symptom noticed by the patient who has pulmonary tuberculosis. They are nearly always more or less involved in pulmonary tuberculosis—sometimes small areas, and at other times the entire pleura; sometimes parietal, sometimes interlobar, and sometimes visceral and sometimes mediastinal. Of course, there may be infections other than the tubercle bacillus to blame for the inflammation. If you will refresh your memory on the anatomy of the lymphatics of the lungs by reference to Gray, Cunningham, and more recently, and probably more authentic by a great deal, the work of Dunham and Miller on the lymphatic circulation in the lung and pleura, the cause for the distribution of the inflammation and the resulting dryness or exudate, the remedy for the condition will, I think, become apparent to you. For the pain in pleurisy I should have mentioned binding. We do not like adhesive straps for this condition. We frequently use a long towel folded until it is from three to four inches wide, drawn snugly around the chest, so that its upper edge does not encroach on the lowest point of the sternum in front. This will prevent motion just as well as if the towel is pinned a little less snug over the entire area, and very much more comfortable for the patient. Occasionally we have to put another one on higher up, but very rarely. Instead of big safety pins we usually employ wide adhesive over the towel laps. They are much easier to apply and remove.

Digestion is a most important thing in this disease, as on that depends the patient's strength and his ability to hold or increase his weight. As every advanced case of pulmonary tuberculosis carries a certain amount of infection in the abdomen, either in the mesenteric glands; the enteric glands, or in the intestinal mucosa, or some ulcerated hemorrhoids which become infected and an anal fistula develop; and sometimes a perirectal abscess of no mean proportion. All of these produce temperature, and all call for hard study of the individual case. The question of diet is a very difficult one to settle. As a rule, unless there is a high temperature, a well-balanced diet, with milk after the meal—never any fluid with the meal—is the best accepted routine. I will not bore you with why milk, or why any particular article of diet, other than to say that the much advertised anti-constipation foods are to be looked at askance, because of the irritating substances they carry. Anorexia is usually the result of toxemia and temperature, and is very hard to overcome. An effort, of course, has been made to lower the temperature, sensibly, and a period of feeding with concentrated food requiring little effort for digestion and no effort for mastication will usually tide them over the temperature period. The patient whose cough is so severe that because of the heat of food he is started coughing, and finally losing his meal, should take, just before his meal, a dose of some simple cough remedy. Flatulence is a very common symptom of indigestion in the tuberculous, and a very uncomfortable symptom. We have used, and have a standing order for the nurses to use a low asafetida enema—four c.c. tincture of asafetida in 500 c.c. of warm water, using a short nozzled syringe. This usually relieves it. Of course, it doesn't cure. The five grain asafetida pill so commonly used is many times a great relief. Again, pancreatin with a compound alkaline powder on an empty stomach is efficient, and a great many times we have been able to relieve it with small doses of nux mixed with 2 c.c. of dilute hydrochloric acid and 2 c.c. of tincture of cardamom compound. This is not such a disagreeable dose, when taken in plenty of water through a glass straw. You will find some of your patients become sensitive to milk. It is well to leave it off for two or three days until they get back to normal. The old habit of pushing milk and eggs on the patient was given up long ago. Of course, the condition of the teeth and the oral hygiene must be looked after carefully. There are times when starvation for forty-eight hours, giving nothing but orange juice and water, will work wonders with the digestion of these tuberculous people. Constipation is usually relieved either by pscilla seed in hot water, or mineral oil in agar agar. This mineral oil in agar agar is sometimes varied by the addition of an alkali, but we do *not* use the mixture containing phenolphthalein. A concentrated solution of citric acid and sodium phosphate, 4 c.c. in a glass of water before breakfast every morning usually overcomes the constipation in the patient whose bile is a little thick and sluggish. For the diarrhea which sometimes comes from indigestion, *but not the tuberculous diarrhea*, our favorite remedy is an old-fashioned blackberry cordial, somewhat concentrated, and sometimes a little paragoric with it. At other times we have found it necessary to combine a very small dose of copper arsenite with a small dose of Dover's powder at meals. We always look more carefully for intestinal parasites and for the anal conditions in diarrhea with pain, and constipation with pain. If the indigestion can be laid to starchy fermentation, and there is a rapid loss of weight, even when no trace of sugar can be found in the urine, we give hypodermically very small doses of insulin once, maybe twice a day. As a rule, their desire for carbohydrates increases at once and the indigestion is relieved. For the enteric, mesenteric, and peritoneal tuberculosis our first therapeutic measure is ultra violet light. If this fails 500 c.c. of oxygen gas is introduced into the peritoneal cavity. In using ultra violet light extreme care must be used to protect the patient's eyes and the chest wall. The light must never be applied above the diaphragm.

A rapid loss of weight is rather startling to the family and to the patient, and a worry to the physician, and is sometimes absolutely unmanageable, usually because of complications. The average patient will accept an excess of milk—a pint after each meal, a pint between meals and a pint at bed time, the nurse and physician watching always to see that they do not become sensitive to milk. In that case some other food must be substituted until the sensitization wears off, as it usually does. An eggnog twice or three times a day will usually turn the tide until the patient begins to gain. In any high protein diet a close watch must be kept on the kidneys, remembering all the time that an overworked kidney is more liable to infection than the normal, and tuberculosis of the kidney is far from easy to diagnose. There may be an advanced lesion with the only symptom albumin in the urine. When the tubercle bacillus can be found in the catheterized ureter specimen, we know that the process has advanced to a break through the confining wall, and the procedure becomes at once a surgical one. Fortunately, tuberculous nephritis is not very common. As a cause of many of the symptoms of tuberculosis, a low water intake will be found. The remedy is apparent.

The appearance of the slightest amount of blood in the sputum is the most startling thing that happens to the patient on the cure, and unless the amount is quite large, the most important thing to do is to quiet his fear and his cough, as death from pulmonary hemorrhage is exceedingly rare. Our method in small hemorrhages is to restrict the diet to cool food—no hot drinks—cough remedies to practically stop the cough for twenty-four hours. In these particular cases the sputum will be stained for several days, usually with very dark blood. For the larger hemorrhage and the persisting hemorrhage the authors of works on practice offer many, many remedies. At each sanatorium in which we have patients there is a standing order that in case of true hemorrhage the patient is to have a hypodermic of 1/8 of a grain of morphine and 1/25 of a grain of atropin, the atropin to be repeated in an hour if the hemorrhage persists, the patient to be perfectly still. His intake of water is through a curved glass tube, and a bed pan is used. If the hemorrhage is so sudden, or returns suddenly, and the nurse has no time to fill a hypodermic syringe, she cracks a pearl of amylnitrite over his face. Amylnitrite will sometimes stop hemorrhage when every other remedy fails. If the bleeding persists the patient is given five c.c. of coagulin ciba hypodermically, and perhaps a tube of fibrogen orally. We have stopped using fibrogen hypodermically. In free bleeding we use 20 c.c. of coaguling ciba, introducing into the soft tissue of the flank, or just below the shoulder blade in the back. If all of these remedies fail, artificial pneumothorax of the affected side is done and air forced in until the bleeding stops. For the smaller hemorrhages which have a long, dragged-out red sputum, we use calcium chloride internally. One ofthe nicest preparations we have found is Sharpe and Dohme's "Elixir chloro calcium compound", which carries forty grains to the ounce and is not unpleasant to take. A tablespoonful of this is given in a glass of water every four hours until six doses are taken. This empties a three ounce bottle. It is *not* to be repeated, as about twenty-four hours of calcium chloride medication brings the fibrogen formation up to its high limit, and an excess of calcium chloride rapidly reduces the coagulating power of the blood. In women expectorating a slight amount of blood premenstrual, or during the period, or just after it, we pay very little attention to, except to insist that they keep very quiet until it is all over, and controlling the cough with the ordinary remedy. A rather startling symptom—to the patient—is his first heavy night-sweat, and the physician knows that he, himself, has work before him. This is a nervous phenomenon, the result of a sudden increase in toxemia. Atropin, our old friend, in small doses, either by mouth or smaller doses by hypodermic, usually will control heavy sweats. Occasionally a case is not affected by atropin, then we give a small dose of adrenalin chloride. We have found many cases in which the diet has played a large part in the causation of night sweats. This, of course, has to be looked into carefully.

I have tried to suggest something in nearly all of the more common things that happen in the conduct of a case of pulmonary tuberculosis. There are some special things which arise much less frequently which we might just touch on. The pelvic condition in women. This must be looked into very carefully if they do not respond to bed rest promptly, remembering always the frequency in which an endocrin imbalance is found in women with temperature.

Many patients suffer from asthma or hay fever in addition to their tuberculosis. Neither of these is a disease in itself, but each of them becomes a very disagreeable symptom complex. The remedies are named in thousands. We have recently had rather remarkable success in quieting the symptoms of both conditions with Burr Ferguson's method of intravenous injections of a one to fifteen hundred dilution of hydrochloric acid c.p. in triple distilled water. Another disagreeable, and many times serious complication, is bronchiectasis. If this is advanced and one-sided, a phrenicectomy will usually relieve it, though we do not believe there is a cure for it. Artificial pneumothrax is always contraindicated in this trouble. A cavity in the apex, or just below it, which varies in size from month to month, or enlarges, we have found phrenicectomy to be the ideal treatment for.

Spontaneous pneumothorax is a serious complication. The patient should be fluroscoped or x-rayed at once if possible, otherwise percussion and the stetnoscope will have to tell you the story. If the mediastinum begins to move over to the good side the air must be pumped out until the mediastinum comes back to its place. This must be done frequently until the tear, if such it be, closes, being exceedingly careful that no infection is introduced into the pleural cavity. Just a word as to the indication for artificial pneumothorax. For the patient with one good lung and one bad lung, the time on the cure is greatly shortened by the induction of artificial pneumothorax. In many cases we have undertaken this for the closing of cavities, even when the better side contraindicated. The physician must need know his case very thoroughly before beginning this procedure. When artificial pneumothorax fails you may resort to more advanced surgery, beginning with a phrenicectomy and winding up with a complete surgical thoracoplasty.

Now, may we be allowed a word on the patient who is supposed to recover? When the physician is satisfied that he has reached the stage in the scarring process where it would be safe, he is allowed half an hour on a reclining chair, morning and evening. In three days the time is doubled; in three days more there is added another half hour morning and evening, always after a careful examination of the chest before advancing. When he has been on eight hours a considerable time, with no loss of weight and with no elevation of temperature, he is allowed five minutes walk morning and evening. This is increased by five minute intervals, morning and evening, until he is walking an hour and a half twice a day. This is kept up for a long time, always listening very carefully for any slight reaction before advance. When the average patient can walk an hour and a half twice a day, and keep it up for a month, he is about ready to go back to his occupation if it does not involve too much arm work, or too deep breathing, and if he takes the cure on our plateau he can go home no matter where his home is. If he takes the cure in the arid west he becomes a permanent resident of the arid west.

INGUINAL HERNIA*

Dr. W. F. Smith, Little Rock, Ark.

EVERY railroad surgeon has been called upon to examine a patient who has recently been injured. An examination reveals a small soft swelling in the inguinal region. This swelling may or it may extend along the cord well down into the scrotum. The tumor is not tender. The patient states that it appeared shortly after he was engaged in helping take down a driving rod or was removing a pair of trucks from under a tender and the man who was helping him suddenly dropped his end, throwing all the weight on the patient, causing him to strain himself, thereby producing the swelling in his groin. To tell this patient that his condition is not due to the strain, that the tumor or swelling injury and was gradually pushing its way be just emerging from the external ring that he noticed immediately after the accident is a birth-right, is asking more than most patients will believe. The patient is acting in good faith in charging the swelling or tumor to the accident. However, the hernia was present before the alleged along the inguinal canal. Unless a loop of intestine is involved a hernia does not cause many symptoms, as it is neither tender nor painful.

Careful investigation has shown that one in every thirty males has an inguinal hernia. The congenital cause for hernia is well recognized and a marked family tendency to the condition exists. The general conditions predisposing to or actually resulting in or producing herniae are:

1. Congenital development defects.
2. Increased abdominal pressure.
3. Decreased resistance of the abdominal wall.

The descent of the testicle and the associated changes, when imperfect, account for the great frequency of the inguinal form of hernia in males (about 90%) as compared with other forms.

Under the head of increased abdominal pressure may be placed occupations requiring much muscular effort, especially in a stooped position or during forced inspiration, vesical or rectal tenesmus or violent coughing.

The decreased resistance of the abdominal wall may be due to illness, old age, prolonged distension, excessive corpulence or emaciation. Age is also a predisposing factor, as frequent occurrence is seen during the first year of life, due probably to development defects, then again the rate of occurrence increases around puberty on account of the more active habits and beginning work.

Trauma is not considered one of the causes of hernia. I have had many seriously injured patients, patients sustaining injuries from being pressed between cars, knocked off cars, run over by automobiles, struck over the abdomen with sufficient force to rupture many of the abdominal organs but have never seen an inguinal hernia the result of any kind of an injury. The immediate symptoms of a hernia due to a trauma would be pain, nausea, considerable shock, vomiting and later there might be bloody stools. There would be swelling and localized tenderness and later an ecchymosis over the injured area.

It is impossible for a single trauma to produce a fully developed inguinal hernia. The anatomy of the parts is against an occurrence of this nature. To have this happen it would be necessary to have a sudden dilatation of the internal ring large enough to admit a loop of intestine. This would of necessity be forced through a suddenly dilated canal and on through a stretched external ring down into the scrotum, as there herniae of alleged traumatic origin are always complete. An operation reveals a well developed sac, firmly adherent to the cord and vessels and containing intestines and omentum, many times strongly adherent to the sac.

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*Read before the Railroad Section at the Centennial Meeting of the Tennessee State Medical Association, Nashville, April 8, 9, 10, 1930.

A direct hernia, in which the protusion is direct into the canal in the space between the outer edge of the rectus muscle and the epigastric artery, in which the abdominal wall is very thin, as it contains no muscular layer and is weakened anteriorly by the gap in the external oblique fascia at the external ring, especially at its upper and outer angle, the posterior wall of the canal at this point not being reinforced by the presence of the conjoined tendon or the inner deep fibres of Poupart's ligament (Colle's ligament), would much more likely be of a traumatic origin than the indirect or oblique type. The reverse is true, however, as the direct herniae occurring only from three to five per cent of the cases.

Many times a surgeon is called upon to give an opinion as to what influence a given accident may have had on an already existing hernia. It is quite true that any sudden increase of intra-abdominal pressure may aggravate or increase the symptoms of the existing hernia. The degree that the employing company was negligent or liable for the cause of this increased abdominal pressure is the question to decide, but the company should not be called upon to account for the hernia itself.

To devise an operation for the radical cure of hernia has been the problem of many surgeons. Following is a brief description of the technique of the operation we have used with fairly successful results for a number of years. An incision through the skin is made parallel to Poupart's ligament extending down to the fascia of the external oblique. This fascia is divided from the external ring backward for about four inches. The shelving portion of Poupart's ligament is exposed. The sac is then picked up, opened and dissected loose. It is important that the sac be dissected far enough up to enable one to pick up the infundibuliform fascia. The sac is then cut off, after having been tied, the stump being allowed to fall back. The infundibuliform fascia is then united. The conjoined tendon is then restored to the shelving part of Poupart's ligament well down toward the external ring. The inner border of the divided fascia of the external oblique is then brought over and attached to the fascia beyond the line of division. Scarpa's fascia is next united and then the skin. The patient is kept in bed fourteen days.

The following pictures are presented illustrating the various steps of the operation just described:

1. Dissecting sac from cord and vescles.
2. Sac dissected out.
3. Stump of sac and showing infundibuliform fascia.
4. Infundibuliform fascia united.
5. Showing a deficient development of conjoined tendon.
6. Conjoined tendon restored.
7. Uniting internal border of divided extion of Poupart's ligament and reconstructing the external ring.
8. Uniting fascia to the external oblique ternal oblique fascia to the shelving porfascia.
9. Uniting external border of divided external oblique to the fascia of the external oblique.
10. The fascia of the external oblique united.
11. Uniting Scarpa's fascia.
12. The wound closed.
13. Showing completed operation and a scar of the herniotomy done on opposite side four years previous.
14. et seq. Hernia sacs.

A RESOLUTION CONCERNING A NEW PLAN OF BENEFITS TO VETERANS OF THE WORLD WAR WITH NON-SERVICE CONNECTED DISABILITIES TOGETHER WITH A DISCUSSION OF THE RESOLUTION

H. H. SHOULDERS, M.D., F.A.C.S., Nashville, Tenn.

To Veterans of the World War:

The following resolution was adopted by the House of Delegates of the American Medical Association at Philadelphia in June of this year:

"*Whereas,* The Federal Government has inaugurated the policy of rendering medical and hospital benefits to veterans of the World War with non-service connected disabilities; and

"*Whereas,* This policy was inaugurated over the opposition of the American Medical Association; and

"*Whereas,* The policy now in force, if carried to its logical conclusion, involves the construction, the staffing, and the maintenance of a sufficient number of hospitals to accommodate the hospital needs of all the veterans of the World War; and

"*Whereas,* Such a policy places the federal government in unnecessary and unjust competition with the civilian hospitals and the medical profession of the United States; and

"*Whereas,* The present policy is of unequal benefit to veterans by reason of the fact that many disabled veterans cannot (for one reason or another) avail themselves of the benefit; therefore be it,

"*Resolved,* That the House of Delegates of the American Medical Association petition the Congress of the United States and the American Legion to abandon the policy of rendering hospital and medical benefits to veterans of the World War with non-service connected disabilities and substitute therefore a plan of disability insurance benefits with the following provisions:

"First, the creation of a Bureau of Disability insurance in the Veterans' Bureaus as now constituted.

"Second, the issuance of a disability insurance policy to each veteran with disability benefit clauses as follows:

"(a) The payment of a weekly cash benefit during a period of total disability, and

"(b) The payment of liberal hospital benefit sufficient to cover the hospital expenses of a veteran during a period of hospitalization for any disability. Such benefits to be paid to a veteran on satisfactory proof of total disability, and

"Third, Such other provisions as are necessary for the proper administration of the act.

"Be it further,

"*Resolved,* That the proper officers of this Association be instructed to approach the officers of the American Legion with the view to securing the adoption of the policy above set out as a part of the legislative program of the American Legion, and be it further

"*Resolved,* That each state medical association be requested to form a committee whose duty it will be to approach the state and local Legion posts throughout the country with a view to securing the adoption of this program by them."

As the author of the resolution, as a veteran of the World War and as a member of the American Legion, I am addressing this communication to veterans with a request that you give it consideration.

The Congress of the United States has provided several different forms of benefits for veterans of the World War. The one form of benefit to which the resolution relates is that which provides for free hospital, medical and surgical attention for veterans with *non-service connected* disabilities.

It will be borne in mind that a service connected disability is one which was caused, or is presumed to have been caused, by service. A non-service connected disability is one which is not related to service.

This policy of the government, if carried to its logical conclusion, involves the government in the construction and operation of a sufficient number of veterans' hospitals to accommodate the hospital needs, for all purposes, of all the veterans of the World War.

When this policy was first inaugurated it doubtless was the intent of Congress to provide a service for those veterans who were ill, in need of hospitalization and unable to pay for it. No one can criticize such a motive and far be it from me to attempt to do so. One, in my judgment, may criticize a plan of benefits, and especially so if a more satisfactory plan is offered to take its place. That was my purpose in sponsoring the resolution.

Therefore, two specific plans of benefits are under discussion; one is the hospital plan *now in force*. The other is the disability insurance plan proposed in the resolution.

It is intended that the insurance plan should apply to the same veterans as the hospital plan applies to.

The hospital plan of benefits provides for each veteran a bed in a hospital, and surgical and medical attention, *provided his condition requires hospitalization.*

It is readily apparent that this plan of benefit is quite limited. It applies only to the veteran whose illness requires hospitalization and who is in position to accept hospitalization. This reduces the benefit to a limited number of veterans. For example, a majority of illnesses do not require hospitalization. The veteran whose illness is of such a character as not to require hospitalization receives no benefit regardless of his economic distress. His disability is just as complete and his economic need just as great as the veteran whose illness or injury does require hospitalization.

Secondly, the condition of the veteran from acute illness, or injury, may be such that he cannot be transported with safety to a veterans' hospital, or the condition might be such an emergency that it could not wait, in which cases the hospital plan would be of no benefit to the veteran.

Again the illness, or injury, of the veteran might require hospitalization for proper treatment, but the circumstances of the family prevent him from accepting the benefit. The veteran might prefer to be in a hospital in his community where he could remain in touch with his family. Under such circumstances the hospital plan would be of no benefit.

Another circumstance of considerable importance is that the family, or dependents of the veteran in economic distress who accepts hospitalization is left to the aid of community charity. The veteran is disabled. His income has ceased. He has accepted hospitalization in a government hospital. His family is in distress which does not add to his peace of mind.

All the circumstances mentioned above have come under the observation of the writer. Many more might be mentioned, but these suffice to show that the hospital plan is of benefit to a limited group, and not of equal benefit to all veterans, and by no means touches all veterans who are ill and in need.

The insurance plan of benefits proposed in the resolution provides for two forms of benefit:

(a) The payment to the veteran of a sum of money per week during any period of total disability. (A cash benefit).

(b) The payment of a hospital benefit per week during any period of hospital confinement. (A hospital benefit.)

Each veteran would benefit equally. It applies to all alike. The veteran whose illness does not require hospitalization receives his cash benefit and thus his needs are met.

The veteran whose illness does require hospitalization can select the hospital of his preference and without delay obtain admission. He can select the type of service which suits his needs. For example, a ward bed or a private room. He can select his doctor. While he is confined in the hospital he will continue to receive his cash benefit which will take care of the needs of his family.

Under the insurance plan of benefit every veteran shares alike in the benefits. The needs of every disabled veteran is met regardless of the character of his disability, regardless of his location, regardless of whether the illness requires hospitalization or not.

As to the Cost of Administering the Two Plans.

In order to make possible calculations as to the cost of administering the insurance plan the sum of twenty dollars per week is set up as the cash benefit, and the sum of twenty dollars per week as the hospital benefit.

A capable actuary of large experience, Mr. W. H. McBride, of the National Life and Accident Insurance Company, Nashville, very kindly made the following estimates of disability:

"Number of weeks of disability expected from a group numbering 4,000,000 in 1930, ages 31 to 40, inclusive, in *successive years, excluding those attaining age greater than 60.

"1931	4,357,291
1936	4,132,507
1941	3,889,594
1946	3,573,334
1951	2,874,558
1956	1,149,620
1959	267,919"

**Figure for each five-year* period is given instead of each successive year.

The rates of disability here shown is much higher than would be expected in a group of 4,000,000 veterans of the World War for the following reasons:

The physically unfit are largely eliminated. Certainly veterans as a whole are better risks than any other group of similar numbers that could be mentioned. The mortality experience in the war risk insurance demonstrates veterans to be superior risks as a group.

The disability rate in an industrial group is notoriously high, and the figures furnished by Mr. McBride are based upon his experience with such a group. At any rate, a liberal estimate of the disability rate to be experienced in a group of veterans would be one week of disability per year per man. Four million veterans would give a disability experience of four million weeks of disability per year. The cash benefit to these veterans would amount to $80,000,000.00 per year.

Assuming that ten per cent of the weeks of disability would require hospitalization, the hospital benefit would cost $8,000,000.00 per year.

Assuming that the overhead costs of administration would be five per cent of the total benefits this item would amount to $4,400,000.00 per year.

The two benefits plus the costs of administration would amount to $92,400,000.00 for the first year. The disability rate would diminish each year and the costs would decrease accordingly. By the year 1959 the cost would be negligible.

This form of benefit would cease at age sixty. It is assumed that those veterans who attain an age beyond sixty years would be taken care of by some other form of benefit. For example, a pension or domiciliary care in soldiers' homes already in existence.

The Cost of Administering the Hospital Plan of Benefits.

There are at present fifty-three veterans' hospitals with a capacity of 25,940 beds.

It is estimated by the Medical Council of the Veterans' Bureau that 129,859 beds will be required to meet the needs of the veterans of all wars.

The cost of maintenance is $4.42 per day, or $1,613.30 per year per bed.

The average cost of construction is $3,500.00 per bed.

The cost of the professional staff is $151.56 per bed per year.

The average cost of transportation to and from the hospital is $30.58 per veteran admitted.

The cost of equipment is not obtained, but this item is large.

These statements of costs were furnished by the Acting Director of the Veterans' Bureau.

The cost of constructing the 103,939 beds additional to make the total 129,859 would be $363,786,500.00.

The cost of maintaining 129,859 beds would be $209,501,524.70 per year.

The cost of the professional staff would be $19,681,430.04 per year.

The cost of transportation and equipment cannot be estimated.

The cost of two items alone, viz: hospital maintenance and professional staff would be $229,182,954.74 per year.

These figures furnish ample evidence to show that the insurance plan is by far the more economical of the two.

Under the insurance plan when the last veteran has attained age sixty the plan ceases to exist. The costs have scaled downward through the years until the costs become nil. Under the hospital plan of benefits the costly buildings and equipment are to be abandoned and the staff disbanded, or a new policy concerning their administration inaugurated.

A new policy of administration certainly would be in the interest of keeping the beds occupied and the staff employed. It logically would be in the nature of extending hospital benefits to the families of veterans, and thus the expense could be continued and the scope broadened to the extent that medicine and hospitals in America would become almost completely or very largely federalized, thus making for almost complete state medicine.

Since the resolution was adopted a few criticisms have been made which should be discussed here.

One criticism is that the insurance plan is offered purely in the interest of doctors. Such a criticism is unfounded. In fact, it will be noticed that there is no provision in the policy proposed for medical or surgical fees.

Such a benefit is often found in disability policies written by standard companies. It was purposely omitted because such a criticism was anticipated.

Doctors as a whole would receive a larger financial benefit from the hospital plan. It will be noted that the cost of the staff would be $19,681,430.04 per year under the hospital plan. Doctors could not hope to benefit to this extent under the insurance plan. In fact, doctors would not benefit directly at all.

Another criticism is to the effect that unethical doctors and crooked veterans would enter into collusion to defraud the government. This is a slam at both doctors and veterans. In reply to this criticism I would say that if such a large proportion of doctors were capable of such crookedness such large insurance companies as the Metropolitan and others could never have been built up. The basis of a claim with any disability insurance company is a certificate by a physician.

Fraud doubtless is perpetrated occasionally. Every business on earth has had its experience with frauds. Even the Veterans' Bureau. The veteran could be hospitalized unnecessarily under the hospital plan which would be a fraud also, and from the standpoint of the government, a more costly fraud.

It is intended that the Veterans' Bureau force be augmented so as to administer the act. This force would detect and combat fraud. This force disallows the claims of veterans every day under existing laws.

I believe I can say on behalf of organized medicine that we would favor and sponsor any measure seeking to eliminate fraud completely from this and all other forms of administration where a doctor is brought into the case.

Doctors are vitally interested in a matter of far greater importance to the public and the profession than the temporary income of some doctors, and that is the subject of *state medicine.*

Veterans, in my opinion, would be interested if they were to give this matter serious thought.

One form of state medicine is that in force under the government hospital plan of benefits to veterans. It has these elements. The sick individual has no voice in the selection of his doctor—no voice in the selection of his hospital. The doctor does his tour of duty wherever he is assigned. The proper relation between doctor and patient is destroyed. The German system of medicine has this element to a large extent. It was Prussianism we went across the seas to destroy.

In America, medicine and surgery have made more progress than in any other country on earth. The public of the United States as a whole get the best medical, surgical and hospital service of any people on earth. This wonderful system has grown up as a part of our democracy. In this democratic system the patient selects his doctor. The doctor serves those who want him. His clientel grows in proportion to his reputation for good service. The same applies to hospitals.

If democracy in medicine must go—well, then let democracy disappear from the earth altogether as a false philosophy of life and living. Let's apologize for the efforts of our forefathers in establishing a democracy. Let's also apologize to Germany for the destruction we wrought to their Prussian system.

This insurance plan of benefits to veterans is offered in the interest of all. It is in the interest of veterans primarily. It is in the interest of equality of benefits as between veterans. It is in the interest of economy in governmental expenditures. It is in the interest of democracy in medicine —that system which has brought to the people of the United States the highest type of medical service to be had on earth.

ANGINA PECTORIS*

J. A. McCulloch, M.D., Maryville

OWING to the apparent increase in the malady there has been an unusual amount of interest in Angina Pectoris during the past few years. This is noted not alone among the profession, but also among the laity.

This may be explained on the ground that more study has been given to this disease, more discussion among medical men concerning it, and even in the lay press we note a considerable amount of space given to it. In addition to this the introduction of surgical procedure for the relief of this condition has broadened the scope of its study, until it is no longer confined to the internist, but to the surgeon as well.

Many physicians have at last come to realize that angina pectoris is what might be termed a rather common condition, one frequently overlooked, and often the cause of many deaths that heretofore were not understood. In fact, the medical profession is well aware that heart disease and circulatory diseases in their various aspects are now the most important cause of death with which we have to deal.

Osler's definition for angina pectoris is "an agonizing pain in the region of the heart, radiating to the left arm, shoulder or neck, accompanied at times with a sense of impending death." Seneca wrote: "To have any other malady is to be sick—to have this is to be dying."

In spite of the fact that angina pectoris has been known to exist for over a century and a half there is yet a marked lack of unanimity of opinion in regard to its cause. It has been stated that its etiology is the most obscure of things known in medicine. Huchard has enumerated sixty-four theories as to the causation of this dreadful disease, and a later enumerator has counted eighty-two theories to account for the condition, and none of these theories completely explain it. In fact, it would appear that there is no satisfactory explanation or definition for this condition. It has been stated that since the diversity of the theories is proof of insufficient knowledge it is wiser for the practitioner to consider the syndrome as the result of definite cardiac lesions.

It would appear that age is a considerable factor leading up to the development of this disease. Individuals rather advanced in life have been proven to be more prone to an attack than younger persons, yet certain authorities claim that this disease is occasionally present in children. Many writers claim that this never occurs.

Males are more frequently affected than females, and this is explained on the ground that the male is more active, and engages in a more energetic form of occupation.

Foci of infection and syphilis are both regarded as contributory, as well as causative factors.

The occupation of the patient is also regarded as an important factor in the production of this disease. Excessive exertion is probably the greatest contributory factor, being second only to infectious disorders and senile changes which produce arterio sclerosis.

The consensus of opinion among medical men appears to be that on account of the rate at which we live rather than because of any dietary, climatic or other factors, our cardio vascular systems degenerate more rapidly than those of less energetic people. One authority states that he has never seen a case of angina pectoris in certain parts of Africa. Another mentions the absence of this condition among the Chinese. The increased prevalence of this disease is therefore possibly attributable to our ever increasing rate of living, and the increased tendency to cardio vascular degeneration which it seems to carry in its wake.

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16, 1931.

This condition is apt to choose its victims from those carrying heavy responsibilities, from those who have a tendency to worry, and particularly from the ranks of our own profession.

Frequently the onset is preceded by a period of high nervous tension and worry.

Mild prodromal attacks often occur before typical attacks. The most characteristic of these prodromal symptoms which may persist over a long period of time is what these patients describe as a burning sensation or a burning pain behind the sternum. Due to the fact that these symptoms are often associated with flatulence, and are relieved by belching, patients often describe this symptom as a mild indigestion.

This may be constant over the sternal region, or spread over the precordium, and even to the back. This pain which is characteristic may be regarded as distinct evidence of the pathologic process going on behind the sternum. Stabbing or needlelike pains are sometimes felt. A steady manubrial pain over a long period of time, or a continuous burning sensation should, therefore, be a warning signal in questionable cases.

Inability to walk against a strong wind is suggestive of an oncoming angina. The same is true of riding in an open automobile. The condition known as angina vasomotoria, or extreme pallor of the face and coldness and stiffness of the limbs due to the spasm of the peripheral vessels, as well as cyanosis of a portion of the head, chest and body may occur.

Among the early symptoms may be a sense of oppression in the chest, but when the disease becomes well developed it is characteristively constrictive, and seems as if it would extinguish life if it were to increase or continue. Allbutt described this anguish as "being even in slight or incipient cases an organic dread or sense of ill omen as contrasted with rational apprehension"—"a strange indescribable fear."

Anginal pain is paroxysmal in character. The attack is usually transient, and generally terminates spontaneously in death or recovery in an hour.

The immediate attack is usually brought on by an effort, especially in the first stages of the disorder. An attack is often precipitated by walking, especially if walking upstairs or an incline, or if exposed to cold, or after a hearty meal. Emotion alone may precipitate an attack.

In a description of the symptoms it may be stated that they are somewhat well known. There is no dyspnea, and in fact there may be apnea. The face is pale, the eyes show fear, and the whole expression is typical of cardiac anxiety. The attitude of the patient is characteristic, in that he stops where he is, stands perfectly still, or may bend forward with his hand over the heart, and assumes a position that will tend to give the left chest the greatest possible unhampered expansion. The pain appears near or beneath the sternum, radiating upward around the left chest, into the shoulder and down one or both arms. The attack may be coincident with acute abdominal pain, and if oft-times mistaken for an acute abdominal disease. It must be remembered that what appears to be acute abdominal disease in patients over 50, or even 45 years of age, may be either referred pain from an angina, or a coronary disease, even when all symptoms point to the certainty of the surgical nature of these acute conditions.

The greatest difficulty that might arise in diagnosing angina pectoris is its similarity to coronary thrombosis. Yet it is evident that the difference between the anginal syndrome and that produced by coronary disease is that while the position and radiation of the pain may be quite similar, the symptoms are more pronounced in the epigastrium than in the arms in coronary disease. Dyspnea is rarely absent in an attack of coronary disease, often accompanied by collapse, with a weak thready pulse, often arrythmic. In true angina the pulse is regular and full, with no dyspnea. In angina the lungs usually remain clear. In coronary attacks they very frequently show fine rales from acute pulmonary oedema. Even with the intense pain of coronary disease the patient does not show any characteristic attitude. He may be nervous and moving about, but in angina the patient stands or sits still, with his hand clutched over the most painful spot. In coronary disease the pain is of much longer duration than in angina and nothing but heavy doses of morphine will relieve the pain. Frequently in angina the nitrites relieve the symptoms as quickly as they have appeared. In fact the action of the nitrites is a characteristic test of real angina.

The attacks of pain from coronary disease are apt to occur at night, or when the patient is quiet, and show no special relation to exertion. Angina, on the other hand, especially in the early attacks, almost invariably follows exertion, and ceases with the exertion. Only later attacks are likely to come in the sleep.

Any consideration of the treatment of angina pectoris must necessarily take cognizance of not only the attack itself, but of the underlying pathological conditions. This condition may be associated with certain organic changes in the heart, in addition to a number of clinical conditions elsewhere, some of which are foci of infection and syphilis. The correction of the habits of the individual is obvious. One can scarcely overestimate the importance of establishing a proper mental attitude in the patient. The nervous, apprehensive individual with the shadow of impending death constantly darkening his outlook, must be educated to a hopeful point of view. In no other disease is it more important to treat the patient rather than the disease. It is necessary to emphasize the importance of rest and the avoidance of strain, both physical and mental. Some cases may require an extended rest in bed, while in others a simple restriction of their daily routine; this to be followed by a gradual resumption of activity. According to McKenzie, the guiding principle is to keep activity below the level at which attacks may be provoked. Careful regulation of the diet, proper elimination, and abstaining from the use of tobacco and alcohol are advisable. Necessarily the removal of focal infections are indicated, however, it may be stated that after the anginal symptoms have once developed the removal of these foci has not been followed by the relief expected.

In the treatment of this disease it may be stated that the use of drugs, except for the immediate relief from pain, should be considered last. The nitrites and morphine are indicated during the attack, and the sedatives and bromides appear to have a happy effect in supporting the mental attitude of the patient, particularly in those cases where there is a tendency to develop a hopeless attitude. Somewhat rather recently injection of the paravertebral ganglia with alcohol has met with success in certain cases. As a last resort and in well selected cases surgery of the sympathetic ganglia has been resorted to with varying success. Much objection has been voiced against this procedure by certain authorities, however, it must be admitted that complete cures have been obtained from this procedure where other measures had proven unavailing.

While it must be admitted that these procedures are yet in the experimental stage, yet any attempt to improve our therapeutic armamentarium deserves the greatest encouragement.

DISCUSSION

DR. WHITMAN ROWLAND (Memphis): When we realize in the registration area of the country that deaths from heart disease supersede all other causes, the wisdom of any paper accentuating the painful heart which so frequently results in sudden cardiac death, is particularly emphasized.

I had the privilege of reading Dr. McCulloch's paper before coming here, and I wish to compliment him very sincerely on a most splendid paper dealing with a condition that is quite more common than we realize.

In the past few years there has been a steadily increasing number of sudden deaths from heart disease, and experience teaches that a large percentage of them result from the clinical conditions of angina pectoris and coronary thrombosis.

Such knowledge accentuates the importance of recognition of certain symptoms and signs associated with pathological processes productive of the symptomatic clinical picture associated with the two conditions.

Individuals are becoming heart-conscious through knowledge of the significance of precordial sensation or pain. No other anatomical region of the body is more dominant in the layman's consciousness than the heart area. Keenly aware of the vital necessity of the rhythmic contraction of his heart for continuation of life, any disturbance in the left chest, near or within the heart area, produces a definite fear anxiety not infrequently described as cardiac pain. It is this ambulatory group that presents the greatest problem in diagnosis. There is the responsibility of reassuring a heart-conscious individual or condemning him to early cardio-aortic death. The increasing mortality and morbidity from heart disease stresses the importance of careful and critical consideration of the symptoms of heart-consciousness manifest in an individual of anginoid age.

Only in the past few years have clinicians come to recognize the picture of sudden or gradual occlusion of the coronary vessels. Since the time of Heberden, however, one may find throughout the literature clinical and anatomical observations characteristic of obstruction of the coronary vessels and the literature of today is replete with descriptions of the typical picture occurring as a result of diminution or blocking of the vessels supplying the myocardium.

The occurrence of sudden, agonizing precordial or substernal pain radiating to the neck, left shoulder, or arm, followed by slight rise in temperature, leucocytosis, fall in blood pressure, arrhythmia, enlargement of the liver, pericardial friction rub, decrease in intensity of heart sounds, and evidence of passive congestion in the bases of the lungs is now generally recognized as indisputable evidence of coronary thrombosis and presents no difficulty of diagnosis. At the same time one is justified, I think, in assuming that coronary occlusion, in most instances at least, is a terminal stage of pre-existing pathology and its occurrence is preceded in the majority of instances by anginoid types of seizures. We are well aware of the fact, however, that the first manifestation may be a violent attack of pain with sudden death, the result of coronary block. Nevertheless, it is reasonable to assume that the larger percentage of cases manifest certain anginoid states before the final occlusion occurs.

The cardinal symptom of angina pectoris, of course, is pain. Fortunately, in most instances this symptom is characteristic in type and radiation. There is a sense of constriction beneath the sternum and the precordium, radiating to the shoulder and down the distribution of the ulnar nerve of the left arm.

On the other hand there is apparently no definite physical sign characteristic of angina pectoris. The prevailing impression seems to be that it is more frequent in individuals with hypertension. On the contrary, it is observed just as frequently in cases of low or normal blood pressure. While more characteristic of coronary occlusion, the intensity of heart sounds holds some degree of significance. They may be weak, faint, distant, or scarcely audible. The heart may or may not show enlargement. In my opinion, in an individual whose history and symptoms are suggestive of the anginoid state, the detection of embryonic rhythm is highly significant of the existence of the condition. Likewise when there is peripheral evidence of generalized arteriosclerosis as indicated by examination of the radial, brachial and temporal arteries, symptoms prompting one to consideration of probable coronary or aortic disease receive a most critical and careful analysis.

Where peripheral evidence of arteriosclerosis is not manifest, x-ray of the abdominal aorta, in suspected cases, has been advised, through the belief that if clearly visualized the evidence would be in favor of aortic thickening, and if found, one might reasonably assume the coronaries were similarly involved. The value of such an observation, however, is not yet determined. On the whole, roentgenology has been of little aid in the diagnosis. By means of x-ray it is possible to determine the size of the heart and width of the aorta, but such a knowledge does not unfailingly express an underlying pathological condition, productive of symptoms coincident with the anginoid complex.

The significance of central vascular syphilis as a cause of angina pectoris has probably been overestimated. There is no doubt, however, that such specific pathology is responsible for a percentage of cases and its presence in patients under consideration is evidence strongly in favor of the diagnosis of angina pectoris.

It is perhaps reasonable to state that an electrocardiographic tracing expresses only the integrity of the conduction mechanism of cardiac activity and does not express in its entirely the complete physiological functioning of cardiac muscle. Its employment, however, has been of distinct aid in the diagnosis of coronary and cardiac disease. Certain deviations from normal have been found characteristically associated with symptoms of angina pectoris and coronary occlusion. The greatest significance is, at present, attached to abnormalities of the T wave. In the absence of digitalis administration a negative T wave, in all leads, in leads one and two, or in leads one or two alone, is interpreted as evidence of coronary disease, and in individuals manifesting symptoms relating to the anginoid complex, such negative T wave findings are strongly in favor of the diagnosis of angina pectoris. Many other deviations from the normal electrocardiogram have been noted, such as: notching of the Q. R. S. complex, high take-off of the T wave, marked spreading of the Q. R. S. complex, prolongation of the S. T. interval, and left ventricular preponderance. Notwithstanding current belief, curves of lower amplitude are infrequent in angina pectoris, but when present, lend aid to the diagnosis.

I might state here that I think I could casually remark that I have seen just as many normal electrocardiograms in the face of a typical history of angina pectoris as I have seen abnormal electrocardiograms. I might stress the point that a normal electrocardiogram does not rule out the existence of angina pectoris.

There can be no dispute of the fact that the electrocardiograph has been of distinct value in the study of coronary and myocardial disease. Further there can be no doubt that variations of the anginal complex, in heart-conscious patients of cardiac age, forty to sixty, are an important consideration in the immediate and ultimate prognosis of the individual.

I made no reference to treatment because the treatment of angina pectoris is generally recognized. One remark might be worth while, and that is the recent advent of surgery in the domain of the painful heart. If a painful heart is due to spasm of the coronaries, then a sympathectomy may not only relieve the symptoms but at the same time may place the patient in a position of safety. On the other hand, if he has a definite pathological process in the coronary vessels, sympathectomy relieves the pain, but only gives him a false sense of security, and his potentiality for sudden cardiac death is just the same as it was before sympathectomy.

DR. J. L. BIBB (Chattanooga): Our own friend, Dr. Olin West, kept a very accurate account year before last of the number of doctors dying in America. He had accurate records of 2,700 doctors, with the actual causes of their deaths, and of those 2,700 doctors, 900 of them died of some form of heart trouble. Most of them being in middle or late life, naturally they had some coronary trouble. One-third of the doctors who died that belonged to the American Medical Association in 1929 died of heart trouble, so therefore whether you are an internist or surgeon, or eye, ear, nose and throat man, or whatnot, all of us must be interested in this thing whether we want to be or not.

Dr. McCulloch said the cause was not known, that there were eighty-two different theories. I think that just recently two men have pretty definitely proven what is the cause of angina. It is a disproportion between oxygen demand and oxygen supply. If you will analyze all these cases that come to autopsy, you will see that they have one of three things, either aortic insufficiency, coronary sclerosis, or atherosclerosis of the aorta, with partial occlusion of the mouth of the coronary. These patients can get along fairly well, then, with ordinary exercise, but just let them do a little more and let the heart muscle call for a little extra oxygen, and they are out of luck. You find that true of any muscle that lacks oxygen. If that muscle lacks oxygen, the muscle almost immediately produces lactic acid. Just take the old-fashioned football charleyhorse; the lactic acid produced causes the spasm. It is a disproportion between the oxygen demand and oxygen supply. Best example of anoxemia of muscle with lactic acid and formation and spasm is rigor mortis.

Do all cases of coronary sclerosis have angina? No. A surprisingly small number of them have it. You men who have had occasion, as I have several times with great pleasure, to go to Dr. Willius' clinic in Rochester, who is head of the department of cardiology, know of his recent work in which he analyzed very clearly eighty-six cases that came to autopsy, all having coronary sclerosis. He had a chance to follow these cases on the wards, and he was surprised himself to see that of those eighty-six cases that had definite coronary sclerosis, only twenty-four per cent of them had definite angina; twenty-six per cent of them had definite signs of congestive heart failure; eight per cent of them had both cardiac failure and angina. Strange to say, forty per cent of those cases that came to autopsy did not show, in the Mayo Clinic, any evidence of cardiac trouble. They were mostly old people.

That ought to be a lesson to the surgeons to think of this in old people. Coronary sclerosis may be entirely hidden and the prognosis as to how the patient is going to do on the operating table might be due entirely to that condition. Forty per cent of these people showed no sign of heart pathology.

The doctor dwelt at length on the difference between the diagnosis of coronary occlusion and angina. We so often confuse that with an abdominal surgical condition, because it is the one condition of the heart in which the pain is nearly always referred to the abdomen. Unfortunately a day or two later the picture is even more confused, because in coronary occlusion there is often cardiac arrhythmia with a formation of intramural clots, and these clots are shot into the circulation and you get an embolus, usually in the spleen or liver. Then you get more abdominal symptoms, and again the surgeon thinks he has the laugh on you and that the thing was probably a surgical condition. So you ought always to think of coronary occlusion in older people with sudden pain in the abdomen, followed by nausea and vomiting and collapse, with sudden fall in blood pressure. With angina we don't have collapse as a rule. Coronary occlusion lasts sometimes one, two or three days. Angina lasts a few minutes.

It has been my experience just recently to have a rather large series of cases of cardiac neurosis, so often called "pseudo-angina" or "anginoid pains." I don't know what you mean by them; they are meaningless terms. I think we ought to do away with them. A man either has angina or he hasn't got angina. It is up to us to make the diagnosis clear, because if he has angina, this thing will hang over him the rest of his life, and we ought to clear up the point as to whether he has cardiac neurosis, or whether he has angina.

A word as to the differential diagnosis. Cardiac neurosis nearly always occurs in young females; angina in men, and rarely under forty-five. Cardiac neurosis practically never has any enlargement of the heart. In angina there is always some enlargement of the heart.

We speak of the three E's that bring on angina: excitement, emotion, or eating.

Of course, great exertion. When the pain is due to angina, it comes on, of course, immediately after the excitement. In cardiac neurosis it is generally an hour or two later. Husband and wife get in a scrap at the table at dinner-time at night, and about two hours afterward she begins, after she has had time to brood over it. That has been my experience in several cases just recently.

The attitude of the patient tells the story. In cardiac neurosis the woman is thrashing about the bed, saying, "I am going to die", holding her hand over her heart. The angina patients stays still and complains of retro-sternal pain radiating to neck or down left arm.

The therapeutic test helps. Sodium nitrite always makes the cardiac neurosis cases worse; it is good for angina. Nerve sedatives, as bromides, always help cardiac neurosis.

I do think that there is something in the experiments that were done at the University of Iowa Medical Department in which they tried drug after drug, and they found metaphyllin, euphyllin, theobromin, etc., did increase the flow through the coronaries. Therefore, I do believe that theobromin and these other xanthine base diuretics do increase the coronary flow, and give the heart more oxygen, and that is what it needs. These people practically all die from this thing, too. It is a lack of oxygen to the heart muscle and they die with ventricular fibrillation, due to this lack of oxygen.

If practicable, why not put coronary occlusion cases under an oxygen tent?

DR. J. J. WALLER (Oliver Springs): I would like to sum up in about a quarter of a minute what I think this Association thinks of Dr. McCulloch's paper. If he will be right quiet and not do something to spoil it, they will elect him President of this Association the next time the presidency comes to East Tennessee, as a result of this most excellent paper so tersely and well presented.

DR. J. B. YOUMANS (Nashville): I should like to call attention to one special group of patients with angina pectoris. A certain percentage of these individuals have a thyrotoxicosis. It is important that it is often mild and belongs to the so-called masked group and is frequently unsuspected. Control of the thyrotoxicosis in these individuals, ordinarily by surgery, may relieve them entirely of their symptoms for long periods, years, and perhaps forever.

It seems important that this group which may obtain such marked relief should be given it.

DR. W. H. WITT (Nashville): I am so glad they put the age between forty and sixty. It gives me a great sense of relief.

Mr. Chairman, I have been looking around for some time to find a defense of my attitude that there is no value in discriminating angina pectoris from coronary thrombosis. I don't see that it gets us anywhere to make a distinction. One is a pathological terminology, coronary occlusion or thrombosis; the other is a symptom nomenclature, but essentially in practice they come down to the same thing. It is not necessary to dwell on the characteristic descriptions, however, that are given of those two conditions in our textbooks.

My position is illustrated by a patient who has just been under my observation. For three or four years he has had very definite anginoid attacks on exertion, from which he would get relief, practically complete, by stopping on the street, standing for a moment or so, and then going ahead and probably having no further attack. This was particularly true, as is often the case, after taking a meal.

A little later those attacks became more severe under similar circumstances. He carried nitroglycerine with him and he would get relief. Meanwhile he had a blood pressure of 150 to 190 systolic.

A few days ago while perfectly still he was taken with a substernal distress. His blood pressure at the time was 150. He got very little relief from nitrites, moderate relief from morphia. The blood pressure gradually came down and in the course of forty-eight hours it was down to 80. He was given up as hopeless. Then he began to improve and developed a very marked pericardial rub and fever. He died suddenly on the fourth day.

As I said to begin with, I don't see much to be gained by differentiating, in effect, that is, so far as prognosis is concerned, from the typical angina pectoris attack with probably moderately high blood pressure, brought on by exertion or excitement, some relief from nitrites, and the other type that comes on when the patient is perfectly still, possibly in bed. Both are equally fatal, though they have slightly different manifestations and the essential pathology is the same. It is best for the layman to understand and best for the doctor to practice on the basis that they are essentially the same thing both in their pathology and in the outlook. After all, from the layman's standpoint, the danger present is the thing that he is concerned in.

One other point I should like to call attention to that I think probably has not been stressed. The mildest symptoms of substernal distress are just as serious in practice, just as serious in prognosis, as the severe attacks that are brought on by marked exertion and by excitement. The patient that moves around the room or strikes a little cold wind and has the least little bit of substernal oppression, may go out the next moment.

DR. W. K. SHEDDAN (Columbia): As the essayist and everyone who has discussed it so far has remarked, cardiac lesion is certainly the most important question that comes before the medical profession today. The death rate occurring from cardiovascular disease today is such that it is appalling. Only this week's number of the Journal of the American Medical Association carries five deaths among doctors from angina.

Several years ago I kept count, during the year, and the mortality among the profession itself is something that is appalling.

Charcot, the great French clinician, fifty years ago attempted to describe angina. He was a victim himself. After writing everything that he could think of that was horrible in the way of pain, he wound up his description by saying that it was utterly indescribable. I think it is true that Charcot's conclusions are today as correct as the day he announced them. He died ultimately himself from an attack of angina.

We are having more angina reported, possibly, than we had a few years ago. We are possibly having more cases, which I am sure we are, but we are not having half so much mortality reported from acute indigestion. We all look at the newspapers and the magazines and see cases dying suddenly of acute indigestion. I don't believe there ever was a death from acute indigestion. I would like to get that fact well fixed.

Mackenzie in his work at St. Andrews, following all his cases possible to autopsy, after a long observation reached the same conclusions that Dr. Bibb mentioned here just now, that it was a lack of oxygen, that the pain was the cry of the heart muscle for oxygen, consequently when you increased the blood supply in any way you got your oxygen supply increased, and for that reason you got relief. Those were Mackenzie's conclusions. He found a good many conditions in the pathology of the heart and in the coronary arteries to account for these conditions. I don't think there has been much added to the subject of angina since Mackenzie wrote his work on angina pectoris.

These are questions, as I said just now, that are serious, and they are getting to be quite common.

Mackenzie in this monumental work of his goes on to speak of the abdominal type which the surgeons so often get hold of in their mistakes. They don't make any, though. It is the ordinary country doctor like me that makes all the mistakes in medicine. He will call down on us for our mistakes, but doesn't say much about his own. He opens an abdomen for gallstone disease and finds his patient has angina or has one of the abdominal crises from some cord legion or something of that sort after he gets through. He doesn't find any pathology of the abdomen. If we fail to recognize any of that sort of thing, we are blockheads and old fogeys out in the woods, or we would have known these things when we met them.

I simply want to make the statement that after nearly fifty-three years' experience in medicine, I have concluded that we all make mistakes.

DR. C. J. CARMICHAEL (Knoxville): I would like to call attention to the fact that there are three conditions concerned in this question, and clinically it is very difficult to separate them. First we have what the French call the ischemia carditis intermittens, which Dr. Bibb referred to as our intermittent dilatation. It gives exactly the same symptom as the angina pectoris.

We have second, so-called coronary infarction, and we have the true angina.

If it is possible for us to differentiate those conditions, then it is possible for us to change our prognosis and our treatment. The ischemia carditis intermittens, or the intermittent dilatation, is amenable to treatment, and that is the group of cases which Dr. Rowland referred to as being relieved by sympathectomy. Those cases will be relieved the same as hypertension in any other group of cases. It is perfectly possible for your coronary infarctions to recover and live for a long period of time.

True angina, as generally understood by the profession, which involves a thrombosis of the main coronaries, is probably not amenable to treatment.

The nitroglycerine treatment is not an absolute test for angina pectoris because it will relieve the very type of patient that Dr. Bibb refers to. I have some of those patients that have been living for fifteen years. As soon as the spasm is relieved they are able to go ahead. Eventually those patients recover. They are now using small doses of some of the barbitals to subdue that nervous system to the point where they get sufficient relaxation to make them comfortable.

CLOSING DISCUSSION

DR. J. A. McCULLOCH (Maryville): Mr. President and Gentlemen: I wish to express my appreciation for the very generous discussion of this paper. The importance of the study of this disease, I think, justifies the thought and time that is given to it.

It has been amply demonstrated by the records showing the proportionate number of deaths occurring among the professional men or medical men. It has been called to my attention for the past several years that there are a great many medical men dying of angina pectoris or some allied condition. I think it is entirely worthy of as much study as can be given to it.

SPRUE—REPORT OF THIRTY CASES*

FREDERICK E. MARSH, M.D., Chattanooga

THESE cases were studied while associated with Dr. H. W. Bass, Gadsden, Ala. Sprue is a disease of the digestive tract characterized by recurrent attacks of sore tongue, bulky light-colored stools, marked anemia and progressive emaciation. It is prevalent in the Far East, being primarily a tropical disease. However, it is fairly common in the Southern states of the United States. Of this group of 30 cases there were 12 males and 18 females. The ages of the patients ranged from 25 to 70 years, the majority being above 45 years of age. Sprue is more frequent and severe, the higher we rise in the social scale. It is especially prone to attack those who over indulge in sweets and cereals. Ashford observed that many of his patients ate very little meat and an insufficient amount of fresh plant food.

The immediate cause of the disease is not known. Ashford believes the cause is an infection of the digestive tract by monilia psilosis. In a total of 476 cases, 75 per cent of these presented monilia in the stool culture. Other writers believe it is due to a deficiency of vitamins in the diet, notably vitamin B, and to an absence of certain minerals.

The essential lesions of sprue lie strictly in the alimentary tract. The tongue presents a progressive thinning out of the epithelial layer and extreme redness of the papillae. In many cases the papillae stand out as red dots. At first the redness is seen along the sides and tip, but gradually it extends over the entire tongue. Later the redness extends down into the esophagus, making mastication and deglutition very difficult. Minute ulcers of the intestinal wall develop and are said to be characteristic of sprue. In severe cases, the muscular layer becomes atrophied and the areolar tissue becomes sclerosed due to obliteration of the blood supply. These changes leave permanent damage to the secreting and absorbing surface of the intestine so that the patient often suffers with indigestion the rest of his life. Cachexia in the extreme degree is a prominent symptom in severe and long standing cases. The following illustrates the marked cachexia and emaciation that develops in late cases of sprue:

This patient was a male aged 47 and was examined February 22, 1928. For the past five years, he had been having attacks of diarrhea with five or six thin watery, light greenish stools daily. Attacks would last four or five months and then the patient would regain his health to some extent, following the cessation of the attacks. At the time of the examination he was having diarrhea which had started in September, 1927. He had lost 70 pounds in weight and was markedly emaciated. He had had sore tongue and mouth for past five years during the attacks of diarrhea. This history was obtained from the patient's son. The patient was brought in an ambulance from his home thirty miles away and on arriving at the hospital was found to be moribund. He died within twelve hours after reaching the hospital. The laboratory findings were hemoglobin 15 per cent, W. B. C. 3,160, R. B. C. 560,000. The blood smear revealed many normablasts. The stool examinations revealed numerous fatty acid crystals. We felt that with the history, sore tongue, marked anemia, and emaciation, together with numerous fatty acid crystals, the diagnosis of terminal sprue was justifiable.

The symptoms are very variable and hence the disease may be easily confused with other conditions. The localization of the disease in the digestive tract may be such that it fails to give all the cardinal symptoms. For example, several of our patients failed to show sore mouth and tongue, although the other symptoms such as fatty stools, diarrhea, anemia and weight loss were present.

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16, 1931.

The disease usually appears as an acid flatulent dyspepsia associated with recurrent attacks of diarrhea. The patient begins to have frequent early morning stools, the diarrhea coming on about 4 or 5 A. M. and persisting up to 10 or 11 A. M. There is no abdominal pain before the stools. The stools are copious, so much so that the patient feels the stools far exceed the quantity of food eaten. The stools are fermented and frothy and of varying color and usually though not always, contain large amounts of fatty acid crystals. As the diarrhea continues there is gradual weight loss and general deterioration of the health of the patient. Anemia is progressive and may be extreme. Gastric hemorrhages may result due to ulceration in the stomach. A few cases present only sore tongue and mouth without any diarrhea, but have progressive emaciation and cachexia. There are also cases in which sore mouth and diarrhea are slight and yet the stools are pale and frothy and emaciation is marked. At times the disease is localized in the rectum producing a severe proctitis.

The diagnosis is usually made by the condition of the tongue, the character of the stools and the history. However, it is easy to confuse the disease with lues, pellagra, amebic dysentery and pernicious anemia.

The condition of the tongue with ulcers in the mouth often confuse the physician, and many cases of sprue have been treated for lues.

In differentiating sprue from pellagra, the skin symptoms and signs are present in the latter. Pellagra is a disease of the poor whereas sprue is prone to attack the well-to-do. The nervous symptoms in pellagra are not seen in sprue.

In pernicious anemia we encounter a disease that frequently cannot be differentiated from sprue. The sore tongue with atrophy of the papillae, the diarrhea and the anemia of pernicious anemia resemble the symptoms of sprue closely. However, blood smears often reveal the presence of megaloblasts and macrocytes, on which we can make a definite diagnosis of pernicious anemia. In pernicious anemia cord changes are frequent, whereas in sprue they seldom occur. In all cases of pernicious anemia there is achlorhydria, whereas in sprue it may or may not exist. Of our 30 cases, 16 showed a normal amount of acid or hyperacidity; five cases showed an absence of HCl.; the remainder showed a hypoacidity in the gastric contents. Very often the diagnosis of sprue is made by exclusion, that is, after all other conditions have been excluded, a suitable diet for sprue will often clear up an obscure case of diarrhea associated with cachexia, anemia, etc.

When treated early sprue is not a serious disease. However, if the disease progresses until the patient becomes markedly emaciated, his organs wasted and his digestive tract permanently damaged, it becomes a formidable affection. However, proper diet with hearty co-operation of the patient, will produce good results even in the late cases. One of our patients, a late case with a history of long standing, entered with a hemoglobin of 40 per cent and R. B. C. of 1,820,000, returned at the end of two months treatment with hemoglobin 85 per cent and R. B. C. 4,000,000, and had gained 30 pounds in weight. There were other severe cases in our group who showed early recovery on strict dietary measures.

The diet is based on a marked reduction in sugars and starches and is rich in vitamins and minerals. The patient is put to bed for three weeks and the diet at first consists of sweet milk alone, starting with small quantities (4 or 5 ounces) every one and a half to two hours during the day. The amount of milk is increased each day until at the end of three weeks the total quantity for the day is three to four quarts. On the tenth day, bananas and strawberries (if they are in season) are added. At the end of three weeks, rare beef is added followed in two or three days by the addition of green vegetables. Later, we add beef liver and raw or soft cooked eggs and fresh fruits. At the end of four weeks, he is getting a fairly well balanced diet rich in iron. He should remain on this diet for at least a year to prevent a relapse of his symptoms. The diet is usually well taken and the patient notices so much improvement the first two or three weeks that he is willing to follow it as long as the physician deems necessary.

The use of bananas and strawberries should be stressed as well as the generous intake of liver. In the tropics it has been observed that those patients who ate strawberries and bananas regularly were free from sprue.

The severe cases where the red cell count is extremely low are best treated by blood transfusion. One transfusion will often raise the red cell count considerably and the patient with this start will be able to take the diet to recovery.

In conclusion, sprue is the most interesting of tropical diseases which is present in the South. Mistakes in diagnosis between this disease and pernicious anemia, amebic dysentery and pellagra are always excusable. The diagnosis is often made by exclusion, that is, after these other conditions have been excluded, a suitable diet for sprue will often clear up many obscure cases.

DISCUSSION

DR. C. J. CARMICHAEL (Knoxville): There are two or three points that I want to refer to. In the first place, we owe a debt to Colonel Ashford for calling attention of the profession to this similarity between sprue and pernicious anemia, which is so great that at times it is impossible to make a differenitial diagnosis. The blood pictures are very similar. The findings of the gastric contents are very similar. I say this generally speaking, now; of course, there are slight variations. The doctor told you a certain number of these patients run a normal acidity. At other times you find all of these patients run a subnormal or absent hydrochloric acid just as they do in the pernicious anemias, and just as they do in pellagra.

Last year at the American Medical Association, the subject was evidently of enough importance that Dr. Bassler read a paper on it. Between Dr. Bassler, Dr. Bastedo and Dr. Billings, they had quite an argument on the subject.

I have had a few of these cases, not enough to carry them forward as the doctor has, but there are two or three things with reference to the treatment that I would like to emphasize. The most important thing is to feed the patient that type of food which makes red blood, and that can only be done by protein. I cannot conceive of nor do I know the origin of the strawberry and the banana diet. The strawberry diet seems to come from South America, and the banana diet seems to be confined to Porto Rico and New Orleans. Theoretically, the banana should be avoided because it would have a tendency to keep up the diarrhea.

The most characteristic thing in connection with a case of sprue outside of the blood picture is the stool. It is an enormous stool; it comes in the morning, and the patient wonders why such an enormous stool when he has not been eating well. These patients show a preference and have been for weeks showing a preference for a carbohydrate diet, just as they do in certain other conditions. But so soon as you can get the patient at rest (and I would like to emphasize a point which the doctor did not bring out, namely, freedom from worry), you find results. He says it occurs in the well-to-do. Dr. Bassler or Dr. Bastedo said it occurred in the well-to-do and the other contradicted him. Regardless of that, every one of these cases is carrying a worry, an emotional disturbance of some kind, which in some way upsets his metabolism, and for that reason these cases do not seem to crave the blood-making foods, namely the proteins. I immediately put my patients on a high protein diet, give them hydrochloric acid in teaspoonful doses, give them as much rest as possible, and give them thyroid three times a day.

DR. L. E. BURCH (Nashville): I merely desire to add to Dr. Marsh's interesting and instructive paper that a Monilia infection of the vagina is rather a common condition in the tropics, and it is not a medical curiosity in the United States.

Dr. E. D. Plass of Iowa City has recently made a most valuable contribution to the literature on this point, in a paper that was published in a recent number of the American Journal of Obstetrics and Gynecology.

DR. H. G. RUDNER (Memphis): My experience with sprue has been that the patient can tolerate vegetables early in spite of their diarrhea, almost as much so as pernicious anemia cases. They tolerate vegetables just as well as they do milk.

The liver extract treatment in sprue has proven the best treatment. Treat sprue with liver just as you treat pernicious anemia.

We now are pretty well satisfied that the presence of Monilia in the stools is not diagnostic of sprue. It is quite often found in the presence of conditions simulating sprue, but it is not absolutely diagnostic of sprue.

The diagnostic point between sprue and pernicious anemia, I think, is the reaction of the reticular cells after giving them liver treatment.

CLOSING DISCUSSION

DR. FREDERICK E. MARSH (Chattanooga): Dr. Carmichael said we started these patients on high protein diet early. We don't start our ulcer patients early on a high protein diet, but a smooth, soft diet. For that reason, I think it is essential in these severe cases that we start them off with milk and liver extract and then gradually, after they have improved to some extent, after a period of ten days or two weeks, add the other things. A great many of these people will rebel against the diet of vegetables on account of the distress which these heavier foods cause.

REPORT OF TWO SPLEEN CASES*

J. B. HASKINS, M.D., Chattanooga

CASE 1—MOVABLE SPLEEN

This patient had a movable spleen. The past history is negative except for malaria and measles. She was a patient of Dr. McGhee. The history states that she was helping her husband out of the garage with his car when she was suddenly seized with a severe pain in the left abdomen. It was somewhat cramp-like, but never entirely disappeared. There was no radiation of the pain. She was nauseated but did not vomit. Dr. McGhee had given two hypodermics of morphine, without much relief. In the afternoon after I saw her she was taken to the hospital, where she remained for about one week, and during that time we had two other men to see her. The tumefaction in the left side would come and go, it would get larger and then smaller. It was decided that it was a hydronephrosis from a kinked ureter. We had a careful genitourinary examination which was negative. We then decided that it was a floating spleen that was twisted on its pedicle. While she was in the hospital she was on a back rest most of the time, as she was unable to lie in recumbent position. After being there for about a week the spleen again became twisted on its pedicle, the pain was excruciating, and she asked for relief. We opened the abdomen and found the spleen greatly enlarged and twisted on its pedicle. We removed the spleen as we felt that would give her a better chance for future health. Before operation she weighed 85 to 90 pounds, but since the operation she has been gaining and weighs over 100 pounds. She has been in better health ever since.

I have reported this case to several men. Dr. Deaver said that he had only had two patients with this condition, at the Mayo Clinic they had had three, and Dr. Crile had never seen a case. This patient made a splendid recovery and I am glad to present her to you this morning.

CASE 2—SPLEENIC ABSCESS

This young man came to me last April suffering from a condition that I thought was a diaphragmatic pleurisy. I strapped him and sent him home, put him to bed and saw him there a number of times. He continued to run an afternoon temperature. We had a careful x-ray examination and I had several internists see him. We were unable to find anything in the chest. He became worse and then we decided that he had typhoid fever. We sent him to the hospital and had a blood culture which was negative, and a Widal test which was slightly positive. Here is the x-ray which shows left diaphragm greatly elevated. He was very tender over the upper left quadrant of the abdomen, and the two outstanding features were pain in the back of the neck, and left side of chest posterially, most marked over left kidney, but urinologically he was negative. His blood count was ranging from normal to 25,000 whites and from normal polys. to 90 polys. This is tne x-ray of the left upper quadrant and you can see where the diaphragm is. We sent the man home after he improved slightly and he came to the office on a few occasions, then he got worse and we had him return to the hospital for further study. The leucocyte count ran from normal to 25,000. He was gradually losing weight and strength and was very anemic. We told him frankly that we were not sure what the trouble was, but that we were convinced that it was a surgical condition. On his request, we opened the abdomen and found many adhesions around the spleen, stomach and diaphragm, and when we got these peeled away there was a spleenic abscess, with the spleen badly honeycombed. It looked very much as though there would be a fatal termination, but after great difficulty we finally got a donor and gave him two transfusions which helped him materially.

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*Read before the Informal Clinic at Tennessee State Medical Association Meeting.

He then developed a hydropneumothorax on the left side. We aspirated twice and took out about a pint each time. The cultures and smears from spleen and chest fluid were negative. What the etiology was is still a mystery, but it is the only case of spleenic abscess I have ever seen, and I felt that it would be interesting to report it to you.

The patient now weighs fifteen pounds more than he ever did before and is in splendid condition. He has a small ventral hernia. The tonsils were removed several years ago and the teeth were in good condition.

CARCINOMA OF THE PANCREAS WITH CASE REPORTS*

A. G. Kern, M.D., F.A.C.S., Knoxville

THE pancreas lies posteriorly across the upper abdomen. Its head is in intimate contact with the duodenum and terminal portion of the Common duct. Its anterior surface contacts with the pylorus of the stomach, and its body lies in close approximation to the poterior wall of the stomach and to the transverse colon. Its tail contacts the spleen and left suprarenal gland. The posterior surface of the pancreas lies across the spine and against the large vessels and a portion of the solar plexus.

The pancreas is a compound racemose gland, with islands of Langherans scattered throughout its substance. There is a long duct that extends throughout the central portion of the organ and empties into the duodenum, separately or in connection with the umpulla of Vater, a portion of the common bile duct. Sometimes there is an accessory duct draining the head of the pancreas, or a portion of it separately.

The functions of the pancreas are an external secretion necessary for digestion, and an internal secretion necessary for the combustion of carbohydrates. The functional capacity of the pancreas far exceeds the normal requirements, both as to its external and internal secretions. For this reason, and because we have no accurate tests for pancreatic function, destruction of the organ by a malignant growth is usually extensive before the patient complains or consults a physician. There are exceptions to these late symptoms depending mostly upon the location of the cancer. One can conceive of a cancer having its origin in the pancreatic duct at its head and completely obstructing the duct early and thereby giving early symptoms such as indigestion, large fatty stools containing undigested particles of food, alternating diarrhoea and constipation, loss of strength and weight. Or the growth might readily originate in the body of the gland and involve some neighboring structure, such as the solar plexus, early and give rise to early pain. Such small growths may be present and not be of a sufficient size to be discovered grossly at an exploratory operation. Dr. Clayton reports a case in which a complete and thorough exploration was done suspecting a cancer of the pancreas, which was entirely overlooked and later discovered at autopsy, only after the organ had been removed and incised. This cancer had early occluded the pancreatic duct, in the head of the organ. For such a reason it is at times difficult to differentiate a chronic inflammation of the head of the pancreas, with an early carcinomatous changes. I wish to mention at this time that chronic inflammatory conditions of the pancreas are more likely to involve the organ, more uniformly instead of being more or less confined to one portion. By the time cancer effects the whole of the organ it has reached a late and extensive degree of involvement of other tissues.

Even after a most thorough examination of the pancreas in situ one may mistake one condition for another. Such conditions will be brought out in reporting an example case later in this paper.

Since the diagnosis is not always easy after an exploration, the difficulty in preoperative diagnosis is emphasized. The best that can be done pre-operatively is a suspecting that the patient has a carcinoma of this organ. This is further emphasized by the frequent error in differentiating between an ulcer of the duodenum and cholecystitis. In spite of the variance of symptoms, and findings in these cases, I feel some of the differentiating features should be mentioned in arriving at a diagnosis.

Cancer occurring in different portions of the pancreas, gives rise to entirely different symptoms. Carcinoma originating in the head of the organ, rarely comes to the surgeon before some obstruction to the Common bile duct has occurred producing an increasing jaundice.

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16, 1931.

As long as fifty years ago, the cardial symptoms of this condition were described by Bard and Pic. First, a deep progressing, painless jaundice; second, a distended and palpable gall-bladder; third, cachexia which runs a rapid course. The jaundice is usually painless, which is an important feature in the diagnosis, but this is not always true. Some of these cases begin with pain as will be shown in a case to be mentioned later. Usually, however, the pain if it does occur is not of a colicky nature and does not simulate that occurring in gall stone obstruction, which in itself at times may be painless. Usually if pain does occur it is constant with no intermission. In any event because of the exceptional case Sir Berkely Moynihan has said, "No one living is infallible in the differential diagnosis of obstructive jaundice", this diagnosis is always so difficult, the chance of a life saved is so important that however positive the evidence of malignancy may be, I now advise operation on all cases.

A distended gall-bladder is not always associated with this condition. The gall-bladder becomes distended because of the back pressure of bile in it. Very often carcinoma of the head of the pancreas is preceded by a cholecystitis, and if the wall of the gall-bladder is thickened by disease, or there is a stricture or blockage of the cystic duct, this organ remains contracted.

Cachexia is rapid for two reasons in all cases. Bile which is necessary for the digestion and assimulation of fats is prevented entering the duodenum. Also in most instances the pancreatic duct is obstructed and these necessary digestants are not allowed to enter the intestines. Hence the undigested food is found in the stools.

Glycosuria is usually absent because of the widespread distribution of the islands of Langerhans. In cases where the involvement is of a great degree glycosuria may occur. For this reason, glycosuria occurring in any case, signifies an already extensive involvement. On the other hand a patient already having some disease of the island of Langerhans, but not to the point of glycosuria may show it early in carcinoma. In any event it is of no diagnostic value.

Carcinoma of the body or tail of the pancreas, are as a rule accompanied by the most severe, excruciating pain in the absence of jaundice. At the onset of the pain it is paroximal and usually confined to the epigastrium. Later the pain becomes constant without any relation to meals, as in diseases of the stomach or gall-bladder. It is sharp and usually girdle in character, and radiates to the spine or thorax. It, in many instances, is associated with indigestional symptoms and even vomiting because of reflex effects on the stomach. The progress of the disease is less rapidly fatal because cancer of this organ usually grows slowly, and the head and uninvolved portions are capable of furnishing a sufficient amount of unobstructed secretions to carry on digestion for a long time. For this reason the physician is first consulted because of the pain. A great many explanations have been offered. Why pain in cancers of the body of the pancreas is a more common and usual occurrence than in the head tumors. By some it is thought to be due to pancreatic secretions. Chauffered attributes it to pressure and possibly involvement of the solar plexus. However, this does not explain why it is not equally as frequent in cases where the head is involved for the head is equally as close or closer to this vital structure, the solar plexus, than is the body. I would like to suggest that pain occurs because of impigement on some surrounding tissue or structure most likely the solar plexus in the excruciating types and occurs in cancers of the body more often than in the head of the organ, because of the reason that the growth has more time to spread in the former position since the head portion is capable of carrying on the necessary requirements of the organ for a long time. Just a word as to operative procedures in these cases. It rests without much discussion that those cases in which the body or tail are involved, nothing more than an exploration can be done. These cases of the head associated with jaundice usually require a great deal of pre-operative preparation. I rely practically, entirely on saline and glucose intravenously. In the past in all jaundice cases calcium chloride was given to decrease the clotting time of the blood. Raviden of the University of Pennsylvania recently has shown how much greater glucose intravenously lessens the clotting time than calcium chloride does, and that also glucose has an added nutritional benefit.

In the bilary obstructive cases I have found as suggested by a number of the leading surgeons of the country that a cholecystogastrostomy is the operation of choices, and has many advantages over cholecystoduodenostomy. Cholecystogastrostomy is a much simpler and easier operation. Bile in the stomach is not harmful or disturbing to the individual as proven by numerous reported cases, and leakage is not as likely post-operatively.

In reporting the following cases I wish merely to mention the important features which emphasize some of the points of discussion mentioned above.

CASE NO. 1—An example of a chronic pancreatic mistaken for a carcinoma of the head of the pancreas at time of operation.

Mr. P., white man, age 75. Complained of loss of weight and strength for a number of months. Had suffered with indigestional complaints for several years. These complaints grew worse and two months before I saw him, he developed a painless jaundice, which continued to increase in degree until it became an olive color. Shortly after he became jaundiced he developed a diarrhoea, which continued until his operation. At operation the whole of the pancreas was found enlarged, hard and nodular. No part of it seemed to be enlarged more than the other. The head had encroached upon the Common duct at its junction with the duodenum, completely obstructing it. The Common duct was dilated and the gall-bladder dilated to many times its normal size. No stones or disease of the Common duct itself could be made out. Because of the uniform involvement of the pancreas a possibility of its being non-malignant was decided upon and a cholecystostomy was performed. To make a long story short, the patiently rapidly improved, and was alive and well five years after the operation. The gall-bladder drainage having ceased of its own accord, about two months after operation. I have mentioned this case because we had felt this involvement of the pancreas was malignant except for its uniform involvement. I have had other cases similar to this one which proved by their continued health not to be malignant, in spite of the characteristic symptoms and a close resemblance grossly. Chronic pancreastitis even in extreme cases is not frequently associated with jaundice. One can not take sections of this organ and the neighboring lymph glands are infrequently involved except in terrible late cases.

CASE NO. 2 is an example of a carcinoma of the head of the pancreas, having its initial symptoms, that of a bilary colic.

S. S. W., white man, age 56. In February, 1929, he suddenly developed an acute pain in the right hypochondrium radiating to the right shoulder blade. This pain disappeared under morphine after a few days. There was no vomiting, but from that time on he suffered with a great deal of indigestion and two months later developed an increasing painless jaundice. There was no history of diarrhoea, but he rapidly became cacheatic. Tenderness was present in the epigastrium and his gall-bladder was palpable.

At operation the head of his pancreas was found enlarged, hard, nodular and fixed. The tail and the body of the pancreas felt comparatively normal except the tail seemed smaller than usual. Here again there was obstruction of the Common duct by the growth. The gall-bladder and Common duct being greatly dilated. The Common duct was the size of the Vena Cava and the largest I have seen.

A cholecystogastrostomy was performed and the patient remained comparatively well for a year and a half, at which time he died of starvation and exhaustion. In this case because of the initial colicky pain we had hoped to find a stone or some non-malignant obstruction.

CASE NO. 3—An example of carcinoma of the tail and body.

W. W. S., white female, age 70. Was well until a year before the operation, at that time she began to have pain in the middle of her abdomen, more to the left than to the right. The pain was present at all times, but was exaggerated after meals, and at times most severe. There was some nausea, but no vomiting or diarrhoea. Gastric analysis and stool examinations were practically negative. X-ray showed some deformity of the pylorus, and lower end of the stomach due to outside pressure. Over a period of a year the patient lost twenty pounds.

At operation a mass the size of a hen's egg was found to involve the tail of the pancreas and the body. It was hard, nodular, and fixed. The rest of the pancreas, gall-bladder and the stomach were normal. No evidence of metastasis at time of operation or autopsy later was found.

This case is mentioned because of the many conditions it might be confused with. In many ways it simulated gall-bladder trouble, gastric or duodenal disease. These cases as a rule unless a mass can be felt are most difficult of diagnosis, and even a mass can be mistaken for a tumor of the transverse colon, omentum, stomach, or small intestines.

CASE NO. 4—D. S., white, female, age 64. Has been a sufferer of indigestion for 24 years. Since June, 1927, she has complained of pain over the epigastrium, which radiated to the back. Also on several occasions she suffered with intense chills, became intensely jaundiced, and suffered with intense pruritus over the whole body. She also suffered during the past year with alternating diarrhoea and constipation.

Examination in November, 1927, revealed a large gall-bladder, very tender on palpation, suggesting an empyema of the gall-bladder. X-ray examination by oral administration of drug did not visualize the gall-bladder, indicating that the gall-bladder was not functioning, with no evidence of stones.

Operation under local infiltration method revealed an empyema of the gall-bladder. No stones were found in the gall-bladder or ducts, but the head and body of the pancreas was very much enlarged, showing all indications of a carcinoma of the head and body of the pancreas. A cholecystostomy was performed at this time on account of the patient's poor physical condition, which would not permit a cholecystogastrostomy. The patient became immediately relieved of all pain, and the gall-bladder drained on the average of one quart daily, but the stools never gave any indication of bile in them, showing complete obstruction of the Common duct.

Five weeks later, under local infiltration, a cholecystogastrostomy was performed, which the patient stood fine.

About one week later she died from what seemed to be due to a cholemia, with all symptoms of general exhaustion.

In conclusion, I wish merely to emphasize the necessity of an early exploration in any continuous or undetermined jaundice and even if a tumor is apparently malignant that everything should be done possible to at least make the patient comfortable, even if it is only temporary relief.

DISCUSSION

DR. W. A. BRYAN (Nashville): Gentlemen, we have talked a great deal in the past about exploratory operations. In that connection I heard one of my friends make this statement not long ago, that so far as the actual facts were concerned, every operation, every dose of medicine, everything that we do is in reality an experiment. That is because we don't know what is going to happen in the individual case. We only know that out of so many hundred treatments we get so many results of one kind and so many of another.

I feel that we have enough knowledge at hand right now to say that what Dr. Kern has emphasized in his paper is true, namely, that we cannot in a vast majority of cases diagnose with certainty cancer inside the abdomen, and if we cannot diagnose it certainly as cancer in the first place, and in the second place as cancer for which there is no hope of cure, and in the third place as cancer for which there is no hope of adding to the patient's comfort, then that patient should have an operation done with a view to deciding whether it is cancer in the first place, in the second place whether we may add to the comfort of the patient.

In the diagnosis of cancer inside the abdomen, inside the body largely, I think it would be fair to separate our diagnostic knowledge into two groups. In the first I would say that if the patient has metastases, if the patient has enormous invasion of tissue so that we can be certain that it is cancer, in the second place certain that nothing can be done for that cancer, that nothing can be done for the improvement of that patient, then we have no right to go in. If, however, it is only suggested, that is where we make our mistakes, and I don't believe the man lives that can separate cancer of the pancreas always from pancreatitis. A man who has had much experience in the upper abdomen will be able to agree with that statement.

Some months ago I read a paper before the Southern Surgical Association on a subject that is rather closely allied to this, in connection with tumors of the colon. They appear, in fact, in other structures of the abdomen, but particularly in the colon. That group is the inflammatory group of tumors, so-called, pseudo-tumors of the colon.

To illustrate what I mean, I operated on a patient, and when I got inside found a sarcoma of the cecum, clear-cut, so far as the gross appearance was concerned I thought unmistakably sarcoma of the cecum, with a chain of nodes which I took to be lymph nodes leading up to the transverse colon and beyond, some of them an inch in diameter, and from that on down, some of them probably larger than that, and these could not be removed. I knew it was sarcoma, and I said to the doctor and the people in the operating room: "This patient has no chance to get well. We perhaps can prolong his life."

We resected the cecum, the ascending colon, the hepatic flexure, about a third of the transverse colon, anastomosed and closed. The man got well. My tumor was reported on by the pathologist at Vanderbilt University, and the report came back inflammatory—clear-cut tumor, I would like to emphasize that, typical, unmistakable sarcoma clinically.

The man was engaged to be married. I upset that pretty considerably, because the sweetheart came down and wanted to know how long he was going to live. Of course, I said, "I don't know how long he is going to live, but the indications don't point toward a very long life."

I don't know what has happened to that wedding yet. That has been probably three years ago. The thing was inflammatory, and to prove that it was inflammatory the man got well, the nodules in his abdomen have all disappeared, he has gone back to work, he doesn't know that he was ever sick.

I think Dr. Kern's emphasis and his quotation of Moynihan, that the man doesn't live who can know from the outside that the patient has a cancer on the inside, unless we get some of these most certain and late symptoms in evidence of cancer, is a very, very important statement. In these cases we can't tell even when we get our hands on them. In nine, ten, eleven out of every twelve of these inflammatory tumors of the colon the best surgeons in the world, when they get inside, say, "Yes, this is carcinoma," yet they get well. They get well on very little provocation. One gets well from an anastomosis around the tumor, if it is inflammatory, not if it is cancer. I think we ought to remember that and not condemn until we have given the patient his best chance.

THE JOURNAL
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H. H. SHOULDERS, M.D., Editor and Secretary

JULY, 1931

EDITORIAL

Association Dues

In the American Medical Association Bulletin, Volume 26, No. 5, page 107, for May, 1931, is found a discussion of the annual dues of the various state associations.

A tabulation shows the annual dues range from $3.00 in Alabama to $20.00 in the District of Columbia, Idaho and Oregon.

There is only one state, namely, Alabama, with dues less than $4.00 per year. There are four other states with dues the same as Tennessee. They are Connecticut, Mississippi, New Hampshire and Oklahoma.

It is difficult to make comparative figures because the amount of dues allotted to the publication of a State Journal is not known. In the case of Alabama no journal is published as yet, and some of these other states do not publish a monthly magazine the size of the Journal of the Tennessee State Medical Association.

The amount of dues in twenty-four ot the forty-eight states is $10.00 or above.

Attention is called to these facts, not with the idea of increasing the amount of our dues in Tennessee, but rather to emphasize the fact that the affairs of the Tennessee State Medical Association are managed in such a way as to give the membership the greatest possible service for the amount expended by the members and further to emphasize the urgent necessity of economy in the administration of the affairs of the Association.

Recent Meeting of the American Medical Association

It is difficult to discuss so large a subject as the recent meeting of the American Medical Association. The registration was large, something over six thousand.

The House of Delegates met and transacted a large volume of business with dispatch.

The scientific program was excellent and the scientific exhibits, to say nothing of the commercial exhibits, could occupy one's interest for an entire week.

Most of the sections had their meetings in the new Municipal Auditorium. This auditorium is an enormous structure, well arranged for the accommodation of such a meeting.

The doctors of Philadelphia acted as hosts in a beautiful way. It seemed to be their intention to make every one feel at home and do for each one the thing that would please him most.

A Resolution Concerning Certain Benefits to Veterans of the World War

In the June issue of the Journal there appeared a copy of a resolution that was prepared for consideration by the House of Delegates of the American Medical Association.

A few changes were made in the resolution as published.

On another page of this issue will be found the resolution as adopted, together with a discussion of the resolution, addressed particularly to veterans of the World War.

Doctors in Tennessee, and particularly those who are veterans, are requested to read this and be in position to discuss it before their legion posts.

Resolution of Sympathy

Be it Resolved, That we, the members of Loudon, Monroe, McMinn and Roane Counties, extend our sincerest sympathies to Dr. J. A. Hardin, who has been a faithful worker and attendant at our meetings and who is at present incapacitated from illness. His absence was keenly felt, and we extend best wishes for a speedy recovery.

NEWS NOTES AND COMMENTS

Dr. W. D. Haggard's subject at the American Surgical Association, held in San Francisco, June 29th to July 1st, was "Acute Obstruction from Carcinoma of the Colon."

Dr. Haggard will deliver a course of lectures at the University of Washington, Seattle, July 13-17th. His colleagues are to be professor John H. Stokes from the University of Pennsylvania, Dr. G. M. Piersol, Professor of Medicine at the University of Pennsylvania, and Dr. Carl Henry Davis, Professor of Obstetrics and Gynecology at Marquette University.

Dr. L. L. Barnes, of Sweetwater, is taking a four months post-graduate course at Vanderbilt University this summer.

Dr. W. E. Lindsay is leaving Memphis and will practice in Winchester.

Dr. S. S. Moody, of Johnson City, is taking a four months post-graduate course at Vanderbilt University before resuming active practice. Dr. Moody recently resigned as head of the Washington County Health Unit.

Dr. J. B. Naive, of Beverly Hills Sanatorium, was elected president of the Knoxville Council of Social Agencies.

Dr. J. H. Rozzell, of Milan, has completed a four months post-graduate course at Vanderbilt University.

Dr. A. H. Moody, of Dyersburg, was operated on recently for appendicitis.

Dr. Herbert Acuff, of Knoxville, was the principal speaker at the Rockwood Memorial Day exercises.

The Knoxville doctors and lawyers are completing the plans for their annual baseball game. The Junior League will sponsor the game. The proceeds will be devoted to a worthy charity. Laymen, as well as the members of both professions, are showing a great interest in the event.

Be Professional

"If you work in a profession, in heaven's name work for it. If you live by a profession live for it. Help advance your co-worker. Respect the great power that protects you, that surrounds you with the advantages of organization, and that makes it possible for you to achieve results. Speak well for it. Stand for it. Stand for its professional supremacy. If you must obstruct or decry those who strive to help, why—quit the profession. But as long as you are a part of a profession, do not belittle it. If you do you are loosening the tendrils that hold you to it, and with the first high wind that comes along you will be uprooted and blown away and probably you will never know why."—*Charles E. Dawes.*

The erection in the near future of a "house of its own" by the Memphis and Shelby County Medical Society was announced recently by the Memphis Drug Club.

The plan was outlined in the Drug Club bulletin by Dr. A. F. Cooper, secretary of the society.

"In this place the other related professions, dentistry, pharmacy and nursing, might meet," he explained.

It is planned to hold one or two meetings a year at which physicians and pharmacists might be brought together as a group, or physicians and dentists; also one combined meeting annually.

A committee from the Drug Club was appointed to meet with a committee from the House of Delegates of the Memphis and Shelby County Medical Society for a discussion of ways and means for furthering wholehearted co-operation of members of both professions in the matter of prescriptions.

In a section of Hawkins and Hancock Counties, Senator John R. Todd, Jr., of Sullivan, told the Senate, no physicians are available. He sponsored a bill to permit John M. Pearson to minister to the sick there without a license, such a procedure being approved by all the physicians of Rogersville. Pearson, Todd said, has been treating the sick for some time.

Senator John Brown of Shelby interrupted Todd to ask:

"He'll just practice on Republicans, won't he?"

"That's right," replied Todd.

"Then," said Brown, "I'm for the bill."

The bill lacked one of receiving a constitutional majority, but Senator Lester Doak of Warren, who was absent at the roll call, said he would vote to put it across as soon as the opportunity was afforded.

Brown interjected to remark that "my wife saved my life one time by sending for a doctor who was out of town and didn't get there."—*Knoxville News-Sentinel.*

THE "CANCER" DOCTOR

Senator W. W. Craig this morning introduced a bill to allow J. B. Lawrence, of Gates, Lauderdale County, to practice medicine in the cure of cancer, although he is not a licensed physician. It was stated that Lawrence had demonstrated marked ability in perfecting cures of this kind, by a method of his own.—*Columbia* (*Tenn.*) *Herald.*

And why not? Every community has its quack "cancer doctor". Why not legalize one? It will be unique.

FIRST PHYSICIANS

The first physicians in Columbia were Drs. Estes and O'Reilly, who were located in or near Columbia about the time the town was laid out (1807). "Both were good physicians and high-toned gentlemen. Two others were Drs. McNeil and Sansom, each of whom came to Columbia in 1810. Dr. DePriest settled in Columbia in 1809, and was a man of promise, but committed suicide."—*Columbia* (*Tenn.*) *Herald.*

MEDICAL GUILD IS FORMED BY FOUR HUNDRED PHYSICIANS

New York.—A Medical Guild, composed of four hundred physicians, who will furnish all phases of medical care for the flat sum of one dollar a week, has been formed. The guild will advertise in newspapers, but will not use individual names and proceeds will be divided among the participating physicians.

THE NEW SQUIBB BUILDING

A Symbol of Progress

Nearly 75 years ago, Dr. E. R. Squibb founded a modest pharmaceutical laboratory which was destined to become the modern institution of E. R. Squibb & Sons. Through each succeeding year the business has grown in size because it has grown in service.

In the course of rapid progress new buildings, new methods, new discoveries, have constantly supplanted the old.

One of the recent evidences of growth is thenew Squibb Building at 745 Fifth Avenue, New York City. Here are installed the executive offices of E. R. Squibb & Sons, in an impressive setting that is in keeping with the modern architectural development of New York City and in harmony with the steady progress of the House of Squibb in the industrial world.

MEDICAL SOCIETIES

Anderson and Campbell Counties—The Anderson and Campbell County Medical Societies met in joint session at the Russell Hotel in LaFollette on June 25th. The meeting was well attended by the members of both societies and the plan for joint meetings for the summer proved to be an agreeable departure from the usual program. The feature of this meeting was an address on "The Toxemias of Pregnancy", by Dr. Andrew Smith, of Knoxville.

The next meeting will be held in Clinton on July 23, at which time Dr. Tom R. Barry, of Knoxville, will be the guest speaker.

Bedford County—On June 18th, Dr. J. K. Freeman's subject was "Measles".

The attendance was good and much interest was shown in the discussion of the paper. Some unusual cases were reported.

Chattanooga and Hamilton County Medical Society—June 18th: "The Pyelogram As An Aid in Diagnosis", by Dr. J. B. Killebrew.

"Diphtheria," by Dr. P. R. Hysinger.

June 25th: "The Fracture Problem," by Dr. Edwart T. Newell.

"Surgery Under Spinal Anesthesia," by Dr. H. Quigg Fletcher.

July 9th: "Cervical Adenitis," by Dr. H. D. Long.

"Retrospection," by Dr. Fred B. Stapp.

"Common Disorders of the Gastro-Intestinal Tract," by Dr. E. C. Anderson.

"Five Points in Diagnosis of Sinus Disease," by Dr. Stewart Lawwill.

"The Protein Quota in Health and Disease," by Dr. James S. McLester, Birmingham.

Coffee County—Dr. C. E. Evans was the speaker at the May meeting. The paper was on the diseases of children and was discussed by all present.

Dyer, Lake and Crockett Counties—On June 3rd, papers were read by Dr. Robert G. Henderson, of Memphis; Dr. Leslie L. Bolton, Lake County Health Unit, and Dr. John Frazier, of Newbern.

Gibson County—The Gibson County Medical Society met on May 26th. The following papers were read: "Infant Feeding," by Dr. Horton Casparis, Nashville.

"Blood Picture Responses in Throat Infections," by Dr. J. J. Shea, Memphis.

"Hypertension," by Dr. G. C. Thomas, Greenfield.

"Infant Feeding," by Dr. Edward Clay Mitchell, Memphis.

June 29th: "Syphilis and Pregnancy," by Dr. C. H. Marshall, Memphis.

"Congenital Syphilis," by Dr. G. J. Levy, Memphis.

"Diagnosis and Treatment of Syphilis," by Dr. F. L. Roberts, Trenton.

Knox County—The Knox County Medical Society keeps meeting every Tuesday night regardless of hot weather, depression, vacations or high water. Here is the menu for the last few meetings.

June 23rd: "The Care of Premature Infants," by Dr. George Baker. Discussion opened by Dr. Beulah Kittrell.

June 30th: "Some Unusual Cases," by Dr. M. H. Lee. Discussion opened by Dr. A. L. Rule.

July 7th: Dr. A. L. Lancaster was the essayist.

McMinn, Monroe, Roane, Loudon Counties—The June meeting was held at Sweetwater on June 30th.

In addition to reports of interesting cases and the social features of a dutch lunch, followed by addresses by Judge J. J. Blair, of Loudon, and Hon. J. Will Taylor, of Knoxville, the program called for the following scientific papers:

"Pellagra," by Dr. W. D. Padget, Lenoir City. Discussed by Drs. S. B. McClary, Etowah, and J. A. McCollum, Vonore.

"What Is Left for the General Practitioner?" by Dr. T. M. Roberts, of Sweetwater. Discussed by Drs. F. M. Carr, Harriman, and H. R. Dubois, of Athens.

"Undulant Fever." Report of a case by

Dr. C. O. Foree, of Athens. Discussed by Drs. W. E. Gallion, Oakdale, and H. M. Kelso, of Madisonville.

"Intra-Thoracic Conditions," by Dr. A. L. Rule, of Knoxville.

"Pyelitis," by Dr. Thos. H. Phillips, of Rockwood. Discussed by Drs. R. C. Kimbrough, of Madisonville, and H. F. Taylor, of Calhoun.

Robertson County—Dr. W. S. Rude was the host at the June meeting. Luncheon was served at the Watauga Sanitarium. The essayists were Drs. George Carpenter and Murray Davis, of Nashville. The subjects discussed were "Family Spastic Paralysis" and "Gun Shot Wounds of the Thorax." Both papers elicited liberal discussion.

Sumner County—The June meeting was held at the Fountain Head Sanitarium for the purpose of studying the field of county sanitariums and hospitals.

Among the speakers were Dr. E. A. Sutherland, of Madison Sanitarium; Dr. Lewis Wallace, Madison Sanitarium; Dr. C. A. Donoho, of Portland; Dr. C. D. Robbins, of Gallatin ; Dr. E. S. Peden, and Dr. D. N. Law, of Portland.

Closer cooperation between the various hospitals and sanitariums and the county physicians was urged. B. N. Mulford, of Fountain Head, Mrs. Mulford, Mrs. Sutherland, and Miss Lida F. Scott were the closing speakers.

Wilson County—One June 4th the regular meeting was held in the Chamber of Commerce rooms. The main topic was a paper on "Sodium Amytal", read by Dr. Jerry McFarland.

Numerous cases were reported and discussed.

OTHER MEDICAL SOCIETIES

The Upper Cumberland Medical Society—This year's annual session was held at Red Boiling Springs. The attendance was satisfactory. The scientific program was even better than the usual high standard of the Upper Cumberland. Far more interest was manifested in the papers than formerly.

Dr. S. E. Gaines, of Sparta, was elected president.

The next meeting will be held in Cookeville.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By Hugh Barr, M.D.
Medical Arts Bldg., Nashville

The Anesthetic in Tonsil and Adenoid Operations. John E. Stansbury, M.D., Cedar Rapids. Journal of Iowa State Medical Society, May, 1931.

The choice of the anesthetic for tonsil operations depends on the history and physical examination of each case. Heart lesions with compensation withstand either local or general anesthesia. A patient with damaged heart valves without compensation is a bad risk for any kind of anesthesia. Tuberculous patients should always be operated under local anesthesia.

The local anesthetic of choice is procain or novocain in one-half of one per cent solution. A committee investigating deaths following the use of local anesthetics reports 57 such deaths, including 19 following the use of cocain alone, 11 with cocain and novocain, and 11 novocain and adrenalin. Twenty-six of the deaths occurred during tonsil operations. The committee concluded the safest local anesthetic was procain in one-half of one per cent.

Nitrous oxide is used by a few men, but it is costly and requires an expert anesthetist. Chloroform is considered too dangerous. Ethylene is contraindicated where a suction machine is used due to the danger of explosion. Colonic oil-ether has been used but requires an exacting technic and accidents have happened. Up to this time ether is the only general anesthetic that has stood the test of time for tonsillectomy.

The author's technic in adults is a preliminary hypodermic of morphine and atropine, induction with nitrous oxide and ether given through a motor driven machine. In children the author sees no advantage in gas induction over straight ether. Very light anesthesia should be maintained so as not to abolish throat reflexes and suction is to be used constantly. If local anesthesia is to be used the author prefers procain in one half of one per cent.

CLINICAL PATHOLOGY

By R. H. Monger, M.D.
Medical Building, Knoxville

Laboratory Aids in Diagnosis and Treatment of Surgical Septicemia. Jour. Lab. and Clinical Medicine, April, 1931. J. A. Kolmer, Phil., Pa.

The author states that the laboratory aids in the diagnosis of surgical septicemia are by blood cultures, by estimation of the bactericidal and bacteriostatic activity of the whole blood, total and differential leukocyte counts, estimation of the metamyelocytes of the blood, "shift to left" and "nuclear index," and estimation of total numbers of various leukocytes instead of percentages to obtain changes in "absolute" numbers instead of "relative" changes. In the treatment of surgical septicemia they are: Selection of antistreptococcus serum on the basis of agglutination tests with the infecting streptococcus; careful selection of donors by group and direct matching tests for blood transfusion; methods for "immunotransfusion"; method for preparation of autgoenous streptococcus or staphylococcus serum and supplying deficient complement of the patient. Skin tests for serum allergy in relation to serum therapy; selection of bacteriophage by laboratory tests of lysis for the staphylococcus or streptococcus producing infection and toxicity and therapeutic tests in the lower animals of chemotherapeutic agents employed for the treatment of surgical septicemia.

Biopsy in Treatment of Malignancy. Jour. of Lab. and Clinical Medicine, April, 1931. J. C. Bloodgood, Baltimore, Md.

The author emphasizes that biopsy in breast lesions is rapidly taking the place of clinical diagnosis and gross pathologic diagnosis. In those clinics in which the percentage of women operated on who consult the clinic for breast troubles is less than 25 per cent, the number of benign tumors operated on will be more than 50 per cent and the exploration of the tumor for biopsy may reach almost 75 per cent taking all the tumors together. Therefore, it is not justifiable to explore a breast tumor today unless one is prepared to make and correctly interpret a frozen section. When the tumor of the breast is distinctly malignant the complete operation can then be performed without exploration.

DERMATOLOGY

By E. E. Brown, M.D.
Doctors Building, Nashville

Radiotherapy for Inflammatory Conditions. By Arthur U. Desjardins, M.D., Journal American Medical Association, Feb. 7th, 1931.

He enumerates several conditions in which x-ray is of distinct value, viz: furuncle, carbuncle, abscesses of soft tissue, peridental infections, acute adenitis, onychia, paronychia and erysipelas. He prefers the small dose and usually only one or two treatments are necessary. The dose should be from one-tenth to one-half the erythema dose. The x-rays are applied to a zone which includes a small area of normal tissue around the lesion. He assumes that the infiltrating cells, leukocytes and lymphocytes contain or elaborate within themselves the protective substances or other means which enable them to destroy or neutralize the bacterial or other toxic products that give rise to the defensive inflammation. Irradiation by destroying the infiltrating lymphocytes causes a liberation of the protective substances and makes them even more readily available for defensive purposes. This, he claims, is evidenced by the rapidity with which lesions recede. Roentgen therapy is most beneficial during the infiltrative stage of the inflammatory process. In his experience there have been relatively few cases that fail to rspond.

OPTHALMOLOGY

By Robert J. Warner, M.D.
Doctors Building, Nashville

Paralysis of Ocular Muscles After Spinal Anesthesia. Bufill Perez. American Journal of Ophthalmology, June, 1931.

Three cases are reported: a double abducens paralysis, a one-sided trochlearis, and a one-sided abducens paralysis. All occurred about 14 days after the anesthesia, and were preceded by headaches, nausea or vomiting, which generally abated on the onset of the diplopia. Lues was excluded. The signs of meningeal irritation were most marked in the bilateral case. This argues for an inflammatory meningeal reaction to the anesthetic present in the cerebrospinal fluid as the cause.

The Crossed Cylinder—A Plea for Its More General Use. H. G. Preston. American Journal of Ophthalmology, June, 1931.

Preston says that it is difficult to understand why an instrument so accurate, inexpensive, and simple should have received so little attention and publicity as the crossed cylinder. It is not necessary to know the physics involved to be able to use it expertly. It is particularly adapted to small errors in children and materially lessens the time required for such determination.

The author describes the steps taken in working out a given error of refraction. Diagrams previously arranged by Crisp are used as illustations. A bibliography of eight references is given.

PEDIATRICS

By John M. Lee, M.D.

Doctors Building, Nashville

Roentgenographic Reexamination of the Chests of Children from Six to Ten Months After Measles. Jerome L. Kohn, M.D., and Henry Koiransky, M.D. Amer. Jour. Dis. Children, March, 1931.

In a previous paper the authors reported the findings on successive roentgenograms of the chests of 130 children taken during measles. Shadows suggesting pulmonic infiltration were seen in 62.4 per cent of the patients under four years of age and in 42.2 per cent of those four years of age or over. These markings were found in 61 per cent of the cases before or during the height of the eruption.

Fifty-six of the cases studied in the above report returned for reexamination from six to ten months after measles and the same roentgen technic was employed in this study. Thirty-four of those returning for examination had shown during measles shadows of pneumonic infiltrations, and only eight showed on reexamination slight accentuation of basal markings, which were regarded as of little significance.

While 80 per cent of all cases showed abnormal intensity of pulmonary markings during measles, only four showed these markings to a slight degree on their return.

Changes in the pleura as the result of measles were frequent. In eighteen of the cases, pleural thickening not seen on the roentgenogram during measles was present on reexamination. The most frequent location of this change was at the site of the interlobar fissure between the upper and the middle lobes of the right lung. This involvement occurred often in cases considered clinically mild.

During measles more than 70 per cent of the cases showed a large, homogeneous, dense shadow at the hilus. In 39 of those that returned for examination the hilar shadows had diminished in size and density. In eight others the size of the hilus was the same, and in one it was larger.

The interval history showed that after discharge from hospital most of the children remained well. Physical examination of the lungs gave normal results even in patients who had been severely ill with extensive pulonary and pleural involvement while in the hospital.

Attention is directed to the frequency with which pleural involvement occurred and was observed both during and after measles. The frequency of pleural effusions varies from year to year. Comment is made on the fact that extensive pulmonary involvement may result in so little residual change in the lung. While it is recognized that chronic changes in the lungs may result from measles, this study would indicate that if a child recovers from a severe case of measles with pulmonary involvement, the chances of returning to normal health are excellent.

SURGERY — GENERAL AND ABDOMINAL

By John L. Dies, M.D.

1213 Exchange Building, Memphis

The Pathogenesis of Acute Dilatation of the Stomach. By Lester R. Dragstedt, Ph.D., M.D. M. Laurence Montgomery, M.S., M.D., James C. Ellis, M.D., and Warren B. Mathews, M.D., Chicago. Surgery, Gynecology and Obstetrics, Vol. Nos. 2 and 6, June, 1931, pages 1075-1084.

Evidence has been presented which offers a new interpretation of the cause of death in acute dilatation of the stomach. The dilatation is held to be due to reflex inhibition of the peripheral gastric motor mechanism through efferent impulses reaching the stomach by way of the vagi and splanchnics. Experiental evidence is adequate to show that the stimulation of either visceral or somatic sensory nerves may produce by swallowed air and the accumulating secretions of the stomach and duodenum. The fluid is made up of gastric and pancreatic juice, bile and the secretions of the upper duodenal mucosa. From some recent observations on the normal volume of the digestive secretions in the dog, which indicate that previous estimates have been far too low, even the large amounts found in acute dilatation of the stomach do not seem excessive or the result of abnormal secretion. The cause of death is the failure of reabsorption of gastric and pancreatic juice, and more particularly of the inorganic elements, sodium and chlorine, excreted in these fluids. The failure of reabsorption in turn depends upon the inability of the atonic stomach and duodenum to propel these secretions into the lower intestine where their absorption can take place. The gastric and duodenal mucosa does not absorb these digestive juices. In certain cases a secondary mesenteric obstruction to the inferior horizontal portion of the duodenum occurs and provides a further obstacle to the passage of the secretions into the lower bowel. In the clinical case reported the patient developed an hypochloraemia alkalosis, and dehydration exactly as occurs in the experimental animal when the gastric juice secreted is not allowed to be again absorbed. It is probable that the occasional symptoms of tetany observed in case of acute dilatation of the stomach are due to the alterations in the blood chemistry as a result of the failure of reabsorption of gastric juice.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,
and F. K. Garvey, M.D.
Medical Building, Knoxville

Prostatitis and Other Foci of Infection in Relation to Low Backache. W. H. Von Lackum and S. Glenn Major. Mayo Clinic, XX, 1930, page 311.

He analyzes 850 cases of low backache associated with prostatitis of seminal vesiculitis. All cases were excluded whose symptoms could be attributed to other lesions.

The remaining cases numbered 301. Both prostatitis and vesiculitis were present in varying degrees in all cases.

Fifty-one per cent of these cases had sedentary occupations. Prostatitis cases were grouped into four classes. Grade 1 showed 5-10 pus cells to H. P. field. No. 2, 10-50, No. 3, 50-100, and grade 4 more than 100.

Latent prostatitis was present in 42 cases. The average duration of symptoms for entire group was five years.

In 188 cases only an ache was complained of. The site of pain was sacro-iliac 51 per cent, lumbar 39 per cent, lumbo sacral 9 per cent, and lumbo-thoracic 1 per cent. He believes that the small incidence of extension of gonnorrhea to vesicles and prostate is small. He thinks that a quiescent prostatitis is often activated by an acute G. C. History of G. C. was obtained in 49.9 per cent. A higher per cent of tonsilitis and dental infections is found in cases with negative G. C. history.

A table of cultural results is included. Pus was absent in the urine in 35 per cent. Sexual derangements were present in 15 per cent. Results of treatment showed 35.8 per cent symptomatically well. Much improved 22.9 per cent, improved 35.8 per cent, unimproved 5 per cent.

An Improved Method of Protein Fever Therapy in Neurosyphilis. By Marque O. Nelson, M.S., M.D., Tulsa, Okla. The American Journal of Syphilis, April, 1931, Vol. XV.

The author has described a new and apparently much improved technique of producing therapeutic fever by protein. He uses combined typhoid vaccine and by use of small dosage given twice daily, the second dose given during the height of the fever produced by the first, produces a fever comparable to that of malaria. The first dose is of a size calculated to produce slight fever and the second dose is of approximately the same size as the first. It not infrequently raises the fever to 106 to 107 degrees. The advantages described are that by double doses, the fever can be raised higher by using less vaccine. The advantages over malaria are that it lessens the risk to life, the fever is more easily controlled and the treatment more easily instituted. He claims that he has used the method for eighteen months with success and gives three case reports as example. The results compare very favorably with those of malaria therapy, usually obtained.

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Volume XXIV AUGUST, 1931 No. 8

INFECTIOUS DIARRHEA*

THE USE OF BACTERIOPHAGE AND A SPECIAL DIET

F. THOMAS MITCHELL, M.D., Memphis

DIARRHEAL conditions constitute a large part of the illnesses affecting children in this section of the country during the summer months. Many of these are characterized by fever, intoxication, dehydration, acidosis, or alkalosis, mucus and bloody stools, often of a long duration and frequently terminating in death. In an effort to determine the causative organisms in cases with these symptoms the present series was studied.

L. O. Dutton(1), who had developed a rapid technic for the bacteriologic diagnosis of Bacillary Dysentery, and whose work is reported elsewhere, is responsible for the cultures on the stools in this series, as well as the preparation of the bacteriophage, the use of which will be detailed later. The stools were freshly obtained from those patients in the hospital or swabs were taken from lesions in the rectum and in those cases treated away from the hospital the fresh specimen was placed in 30% glycerine in saline, in which solution it was satisfactorily kept for several hours before culturing.

The series to be reported comprises 150 cases as follows: 98 from the wards of several hospitals visited during the year this survey was made, and 52 cases seen in private practice. The hospital cases are about equally divided between the white and the black race, the private patients studied are all white children. All were diagnosed clinically as infectious diarrhea and in all one or more stools were cultured.

In the whole group of 150 cases, 40 or 26.6% were of the Flexner type, 42 or 28% Shiga, 4 or 2.7% proved to be Streptococcus, 12 or 8% were Hiss Bacillus infections, and in 52 or 34.7% no growth of pathogenic organisms was obtained.

If the cases are divided as to age into four groups, as follows: First, those under one year; second, those between one and two years; third, those between the second and third years, and fourth, those over three years of age, some rather interesting information is obtained as regards the results from stool cultures at the various ages.

In those under one year of age, comprising 57 cases, 43.9% proved to be Flexner Bacillus infections, 3.5% Hiss, 5.2% Shiga, 3.5% Streptococcus, while 43.9% of the stools gave negative cultures.

In the second group, 43 cases, 23.3% were Flexner Bacillus infections, 16.1% Hiss Bacillus, 23.25% Shiga Bacillus, 2.4% Streptococcus, and 34.9% were negative for pathogenic organisms.

In the third group, those from two to three years old, numbering 28 cases, the Flexner type infections had dropped to

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16, 1931.

14.3%, Hiss Bacillus were 3.6%, Shiga Bacillus infections were 46.4%, Streptococcus 3.6%, and 32.1% gave negative cultures.

In those over three years of age, 22 in number, only 13.6% of the stools proved negative culturally; 4.6% were Flexner, 9.1% Hiss, 72.7% Shiga, and none grew out a Streptococcus. Thus it is readily seen that in this series at least Shiga infections are much more frequent in the older children, and that the younger the group, the more negative results are obtained from culturing the stools.

With this material in hand an opportunity was available to experiment clinically with bacteriophage. My curiosity had been aroused by the conflicting reports of its efficiency, as well as by the weirdness of its nature as evidenced by the many theories regarding the origin and the behavior of this material.

Hankin(2) first had noted a bacteriophage-like action in river water, and later Twort (3), d'Herelle(4), and others had studied it and many ideas were under discussion as to its nature. d'Herelle claimed it to be a living organism, Twort at first thought it had an enzyme-like action, then that it was a stage in the life cycle of pathogenic organisms, but more lately has been converted to d'Herelle's opinion. Davison (5) believes it to be an enzyme and Kabeshima(6) thinks it to be a catalytic agent from some of the body tissues capable of activating an autolytic substance in the bacteria themselves.

The results of its application in dysentery were also varied. d'Herelle, da Costa Cruz(7), Spence and McKinley(8), Morrison and Vordan(9), and Compton(10), claimed almost perfect results both in shortening the duration of the illness and in reducing the mortality rate. Davidson(11) and Taylor and Greval(12) reported no favorable influence from its use.

Hence, 17 of the 52 private cases were selected on which to try out the influence of the bacteriophage. The bacteriophage were given 5 c.c. by mouth three or four times a day throughout the illness. In the laboratory most of these cultured out "phage susceptible" organisms.

The duration of the Shiga type infections under the bacteriophage therapy as outlined was 8.6 days on the average in four cases. No Shiga infections were treated without the use of the bacteriophage. In the Flexner Bacillus infections six cases received the bacteriophage with an average duration of 5.8 days illness, seven were treated without the bacteriophage and remained sick 7.5 days on the average. Four cases of Hiss Bacillus dysentery were treated with the bacteriophage in which the average duration of the symptoms was 38 days, in the four control cases this average was 16.2 days. In the three cases of Streptococcus diarrhea receiving the bacteriophage the average duration of the illness was 49.6 days, and in one case treated without the bacteriophage the symptoms lasted 42 days. There were eighteen cases whose stools remained persistently negative for organisms of this group, and in these the symptoms persisted 6.8 days on the average. In three cases no growth was obtained and these babies were sick only three days. In these last two groups no bacteriophage was used.

It may be seen that only in the Flexner type infections was there any shortening of the duration of the symptoms in those receiving bacteriophage, and, indeed, in some of the others the illness lasted longer in those so treated. Certainly in this small series no claim can be deduced that would show any favorable action of the bacteriophage on the duration of the illness.

The various anti-dysenterric sera were used in a few of the hospital cases, mostly late in the disease, with no improvement in the condition of the patient or lowering of the mortality rate.

Apparently the most important therapeutic agent in the care of the condition is the conservation of the patient's resistance and strength, and later in the disease after the acute stage has passed, the maintenance of his body weight. In a few instances I have even observed a gain in weight in a child who was still having several mucus or even bloody stools per day. I am convinced that if cathartics be omitted from the treatment and the starvation period be made very short, if it is instituted at all, and that if sufficient fluids are administered early in the disease, and later a nutritious diet is fed up to the patient's tolerance for food, the mortality rate in infectious diarrhea would be materially lowered.

Believing this, the following diet has been worked out and used in many cases over a period covering the last few years. In the smaller baby whose diet is entirely milk, tea sweetened with saccharine for a period of six to twelve hours or longer if the fever is still high, is the only nourishment. Soon, however, 5% glucose solution in tea is used, and in one or two days a change is made to protein milk, either original or made from skim boiled milk modified with Casec or Larosan, or one of the fat free acid milks. Sugar is next added slowly up to the baby's tolerance, which after a few days is usually good. The fats must be slowly added last of all.

Dysentery is usually seen in those past this age, however, and it is in these older children whose diet contains foods other than milk that the following diet is applicable.

During the first few hours when the fever is high only water and tea are given. If vomiting is present to any extent, 10% solution of glucose, one-half ounce every 15, 30, or 60 minutes is given until this symptom subsides. No alkali is given at this stage for fear of producing an alkalosis, as the patient is already losing hydrochloric acid in the vomited gastric juice. It is at times necessary even at this early stage to introduce fluids by some extraoral means; glucose solution by the intravenous or subcutaneous routes, or saline by one of the above or the intra-peritoneal method, being the ones usually employed. This is especially so in those whose stools are large, watery and numerous in addition to the vomiting.

In a short time, however, these symptoms of the acute onset are passed and one then has a patient who is running a comparatively low temperature with some appetite and numerous mucus or bloody stools. Feeding may here be started, and the child is immediately put on the following diet: First, no milk, weak tea is used and in addition toast, rice, cream of wheat, gelatin, orange juice, and a clear soup made of meat, some starch, and the addition of any vegetable except those classed as leafy green vegetables. The soup is strained and if any fat is present it is skimmed off the portion before it is served. No milk is used on the cereal, salt or a small amount of sugar may be added, however.

This diet in the first place is nourishing, in the second is varied so that the appetite is somewhat stimulated. Thirdly, it allows no lumpy residue in the intestinal tract to irritate an already inflamed mucosa. It rather, because of the bland starches present, leaves a pasty mass which because of its bulk prevents to some extent griping, and also is soothing to the intestinal lining. It is easily digested; even by one less than one year old it is easily tolerated throughout the illness and, because these starches are not easily fermentable, without the production of gas.

It contains vitamins and minerals in the orange juice, meat and vegetable extracts. The minerals make a mineral deficiency less likely and thus prevent dehydration and to a certain extent acidosis or alkalosis. The starches present and the gelatin act as excellent buffer substances which aid in maintaining a more normal acid-base equilibrium (13). The gelatin also aids in the digestion of the other food elements (14).

After three or four days the addition of skim boiled milk or one of the acid milks is made. Only after several days or even weeks may the usual diet for the age be resumed, but in the meantime the child's weight and sense of well being have been maintained, even in spite of numerous mucus or bloody stools. The stools are well digested, pasty, contain mucus, pus, and frequently blood, and number from four to ten or twelve in the twenty-four hours. This number should not alarm one if at the same time the baby looks well, holds his weight and is fairly comfortable. Eventually the number of stools per day improves and the diet is increased by the following:

potato, lean meats, egg, custard, plain puddings, and only much later when constipation is present may fruits, green vegetables or whole milk be fed.

The original diet may have to be resumed from time to time if the symptoms reappear. The digestive capacity of the patient may not ever be over-stepped. Throughout the whole illness the fluid content of the body must be kept at a fair level and occasionally a blood transfusion is indicated to carry one over a period of low resistance or marked inanition. One or another form of opium is used throughout the illness as indicated.

The mortality rate in the whole series was 27 deaths in 150 cases, or 18%. Of the 52 private patients, two deaths occurred, which is a mortality rate of 3.8%. While these figures are not absolute, since the two classes of patients considered are so different, I am certain such a difference as this does indicate that babies so treated and fed from the beginning have a much better opportunity of recovery than those who are purged and starved, as are most of the ward cases before admission to the hospital. Since but two deaths occurred in the 52 cases considered in the study on the bacteriophage no deduction can be drawn as to its efficiency in preventing this termination.

In conclusion, we have studied 150 cases diagnosed clinically as infectious diarrhea to determine the infecting organism; we find that most of the diarrheas occurring in this section in the summer months belong in this group. In the few cases treated by the oral administration of bacteriophage no improvement was noted over the control group. In the few which received serum the results were no better than in those who received none. A special diet is detailed which, it is believed, will support the patient, cause little irritation to the intestinal walls, and supply the necessary vitamins and minerals and thus, while not shortening the course of the disease, allow a greater proportion of them to eventually fully recover.

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DISCUSSION

DR. JACK WITHERSPOON (Nashville): Mr. President and Gentlemen: I have enjoyed Dr. Mitchell's presentation of these cases, and I know you all have gotten some valuable information. You may know that I am not a pediatrician, but that I have been interested in this matter, and we have gotten a great deal of useful information from the pediatricians in the treatment of diarrheas of this type in adults.

The mention of bacteriophage as an adjunct to the treatment of intestinal disorders raises our hopes and we are looking locally to our Memphis group to further the work on bacteriophage. They have done a great deal of work on it, a good deal of successful work, one of the few groups in the country that are paying particular attention to this most interesting subject.

The bacteriophage is much older than its description in 1917. This article, whether it is an enzyme, an organism, or what, probably is responsible for the reputation of the river waters of the Holy Land, for their healing capacity, and the mud baths may have some of that virtue through this as yet not clearly understood organism, if you will let me call it an organism.

I have had some little experience in the treatment of adult diarrhea. Some years ago we got a small amount of bacteriophage from the University of Michigan, which we attempted to use in the treatment of ulcerative colitis without any definite result. I feel sure if Dr. Mitchell will pursue this work on bacteriophage, we may well get something more hopeful than he has outlined in his paper.

I think the diet suggestions are certainly in keeping with what we find in adults in the type of bacterial or infectious diarrheas or those that are not due entirely to parasites. The use of the smooth diet, the non-irritating diet, the eliminating of the initial purge that had such a vogue until recent times, followed up with an increase of the fluid intake of the patient, intraperitoneally in children, by bowel or undre the skin, is a most helpful thing in infectious diarrhea or in these toxic diarrheas of adults.

I really bear down more on the use of opium than the essayist suggested. I feel instead of giving the patient large doses of purgatives or castor oil or calomel, as soon as the patient's lower intestine has been emptied by a saline enema (not a soapsuds enema), most value can be had with stopping peristalsis as nearly as possible with the use of paregoric or morphin; large quantities of saline to raise the fluid content of the body, and food, beginning with smooth or non-irritating foods or high in vitamin substances, particularly as gotten from yeast, cod liver oil, fruit juices later.

I believe we have had very unsatisfactory experiences with the use of vaccine in our section. We have never been able to culture the vaccine suggested by Bargen. I don't think we have a great number of cases of that type of ulcerative colitis in our immediate section of Tennessee. However, we have had some, and we have not been able to make vaccine that has been potent. We have had no experience with the serum.

I think the medical profession that has to do with adult diseases has gotten a great deal of value from the research work that has been done by pediatricians in dealing with diseases or infectious diseases of the baby's intestinal tract. As fast as possible this has been modified and applied to the treatment of adult diseases.

The paper has been most interesting. I think he has gotten some very valuable information from the study of these 150 cases, and I know the Association has profited by it.

DR. J. A. McINTOSH (Memphis): Mr. Chairman and Members of the Tennessee State Medical Association: This makes the second time today that I have attempted to talk before my colleagues about bacteriophage. Dr. Mitchell in presenting this subject to you also presents the fact that bacteriophage did not harm these patients. Some believe that bacteriophage will harm.

My interest in this phase of bacteriology arose in a very casual sort of experience, and I will tell it to you. There was a young boy, a high school student, a member of the R. O. T. C., who went to camp and returned ill. He developed the characteristic clinical symptoms of typhoid fever. He had a positive Widal the second week. He was quite ill. At that time at the University of Tennessee we had some typhoid bacteriophage. We induced the local doctor to use the bacteriophage in this case. He did so at our suggestion and urging. He gave the boy 5 c.c.'s intravenously. In less than 30 minutes after the administration of the phage, characteristic protein shock followed. The family called up in great concern because the boy's temperature was so high. The usual means of reducing the temperature were used, and in less than an hour the temperature was approximately normal. One week later I met this boy at the Tri-State Fair, seemingly in pretty good health.

A thing as dramatic as that, after having seen the lingering cases of typhoid fever in the hospital, certainly registered an impression on my mind.

Later I had an opportunity of using bacteriophage in furunculosis, boils. We injected it into the boil, and we would see the boil dry up and disappear in less than eight hours, and in some instances relief of pain came in less than three hours. Sometimes boils on the back of the neck, some of the most angry boils, would cool down and disappear. We were impressed with that.

Those two conditions, staphylococcic infections and infections of bacillus typhosus, have given the best results that I have seen.

Bacillus dysenteriae. I have had limited experience in using the bacteriophage against this group of organisms, but I can say, from giving bacteriophage by mouth, that I don't believe that is the proper way to give it. You might get some through that lives in the intestinal tract and will execute its activity because of the low concentration of hydrochloric acid in the stomach, but I think it is much better either to medicate through the circulation direct, in small doses, or to introduce a tube and give the artificially prepared bacteriophage against the cultivated organism. There are types of organisms that resist bacteriophage. It doesn't cure every case, seemingly, and I believe that is true of even the staphylococcus. We have organisms that resist lysin, but surely we have some that are easily lysed, not only in the test tube, but also in the body, and the results are truly remarkable when you apply such an active phage against a lysible infecting organism.

Bacteriophage at the present time in its application is rather uncertain, and I wouldn't for a minute impose any untruth on my colleagues, but I am pleased with its action.

At the present time we are experimenting somewhat with acne patients that come to us. We treat them about as follows. We introduce the tube, plant bacteriophage that have been cultivated against the staphylococcus albus, in rather large quantities. We place them on an alkaline diet, cultivate the staphylococcus from the pustule, and make vaccines of that, and we vaccinate them every day. I have seen stubborn cases of acne recently disappear in less than two weeks under such treatment.

I believe bacteriophage perhaps has a limited application, but I think that it is a new possibility in fighting infectious diseases.

DR. OLIVER HILL (Knoxville): Dr. Mitchell's paper has the distinction of being an original work, and most interesting. The discussion has varied from diarrheas to boils, and it is difficult to confine yourself to the bacteriophage.

I have had very little experience with this form of medication, consequently I am unable to discuss it very intelligently. However, I was impressed very forcibly with the difference in the discussion of diarrhea now and some few years ago. At that time, the description of treating diarrhea was first to select a light room, preferably a sunny side, give a brisk purge, a dose of castor oil, and withhold food for 24 hours. That is what we were always taught.

Dr. Mitchell has brought to our attention again that in treating a disease like infectious diarrhea, a very important thing is to keep the child's metabolism going; to feed him sufficient amount of calories to maintain his weight in such food as he can digest and will take is our problem.

As I understand it, the gist of his observation of these 150 interesting cases was that the biggest problem was the food and water intake, or keeping up the fluid of the body. You remember, who practiced medicine about the time I did, that we starved many typhoid patients to death, we starved many cases of "flux", as we called it then. They died of dehydration and of acidosis. Looking back over the years, we can readily see that our mortality is much better than it was a few decades ago.

Dr. Mitchell's diet is most interesting. We have at our place a typewritten diet for the purpose of feeding these children. It has a high percentage of calories in a digestible form, with a good deal of variety so the child's individual taste may be taken into consideration. Remember, a child has some likes and dislikes, just as you or I, and to force a child to take something that he has an antipathy for is poor medicine.

Remember how much proteins it requires to replace the waste, how much carbohydrates to furnish fuel, in a palatable form, and you can go a long way toward lowering your mortality and shortening the duration of the disease.

As to fluid intake, I do not believe that we are sufficiently impressed with the importance of giving fluid other than by mouth. I am very certain that I have seen many children come around through intraperitoneal injection of solutions of normal salt. Of course, it isn't every child that has an acidosis. Dr. Hartman, at St. Louis some years ago, worked a fluid called Hartman's Solution to be used intraperitoneally or intravenously, which will keep the normal body tissues in proper chemical balance when there is a loss of fluid either from vomiting or from purging. This solution contains sodium chloride, calcium chloride, sodium lactate and potassium chloride. This must be diluted twenty-five times with normal sterile water and is prepared by some pharmaceutical house, I believe by Eli Lilly, under Dr. Hartman's supervision.

The management of these cases resolves itself to careful study of the food and whatever medicinal remedies seem available. It was hoped at the beginning of bacteriophage that we would find a panacea, and it may be we will yet do that, but the fact that thirty-four cases had no demonstrable culture is most interesting. Let us remember and study our foods more carefully in caring for this type of malady, both in the infant and in older children. In the older children the mortality is much higher.

Incidentally, I want to thank Dr. Witherspoon. I feel very much gratified that he admits that pediatrics has added to the sum total of internal medicine.

I enjoyed Dr. Mitchell's paper very much indeed, and I hope he will continue his investigation. These original papers are always enjoyable because they give you a peculiar human touch to an investigation.

DR. M. S. LEWIS (Nashville): Dr. Mitchell could not have brought us a more interesting subject than the treatment of infectious diarrhea in children. I have not had any experience with the use of bacteriophage in the treatment of infectious diarrhea in children, but I certainly enjoyed Dr. McInosh's discussion of its use. If anybody in the South knows anything about bacteriophage he does—it is most interesting.

I would like to emphasize one or two points in the treatment of infectious diarrhea or any diarrhea in children. One is as to the amount of fluid you are going to give and the way you are going to give it. I am in accord with Dr. Hill about administering fluids by mouth. I feel that fluids by mouth is the normal way to give it to children unless they are vomiting. If vomiting, the intraperitoneal route offers a most excellent way of administering fluids to these children. In those children who refuse to take fluids, it is often easy to slip a nasal tube into the esophagus and administer fluids by the nasal drip. This method can be carried out anywhere. It is one of the best ways of administering fluids to children and in those children who are vomiting you can wash the stomach out easily by inserting the nasal tube into the stomach.

As to the amount of fluids you are going to give that particular infant, it is a matter of great importance. A good way to find out how much fluid the child is receiving is by the color and amount of urine the child is passing. Also, the moisture of the mucus membrane of the mouth as well as the turgor of the skin are excellent ways of ascertaining whether the child is receiving a sufficient amount of fluids. One of our greatest obstacles in treating these cases is to have the child retain enough fluid to prevent any further dehydration. In these cases repeated blood transfusions are particularly indicated.

Last summer we experimented with the use of pituitrin in children with diarrhea and found in a few of them that we were able to cause the fluid to be retained more readily than without it, but as yet we have not drawn any definite conclusions as to its use in the retention of fluids.

As to the character of food, I think Dr. Mitchell's diet is fundamentally sound, but personally I do not believe it makes any difference as to the character of food that you give that particular infant when he has diarrhea until he is ready for it. For if you over step his tolerance at any time you will have to go back and repeat the starvation period. And if this is repeated many times, it is, of course, obvious that the child will die. Therefore, I believe that the character of the food makes very little difference until the intestinal tract is ready for it. In the meantime by furnishing him enough fluids by all routes it won't be long before he is able to digest most any of the simple milk mixtures. Personally, I use Casec milk with rapid increase of the carbohydrates. I believe that most of us who use protein milk do not increase the sugar as rapidly as we should.

DR. F. THOMAS MITCHELL (Closing): I have very little to say except to thank the gentlemen for their liberal discussion. What I tried to convey to you was this idea: that the diarrheas which we see, at least in the summer months, are usually of this dysenteric type, and what we had to say in reference to treatment and to the diet was intended only in this type and not in the irritating type due to improper food or to the so-called parenteral types of diarrhea which depend upon foci of infection elsewhere in the body. This point I am positive of, that these infections are self-limiting, just as typhoid fever is, and that if we keep the patient's resistance built up we are going to do much to prolong his life to the point where he finally will recover.

Dr. Witherspoon agrees with me in that, I am sure.

Dr. McIntosh suggested bacteriophage given by mouth may be partially destroyed in the stomach. I was interested in trying out this particular method, because these men who claimed good results gave it that way. I didn't mean to disrupt anyone's ideas on the use of bacteriophage generally at all; it was just in this group that we did not find it efficacious. It is, in some other conditions, I am certain, a very useful procedure, but here we didn't find that it did anything clinically at all.

You may be quite right, however, that if it were introduced into the intestinal tract or intravenously or some other way, it might be more efficacious.

I am grateful to Dr. Hill for bringing up the discussion of Hartman's solution, which we believe is a very valuable addition to our armamentarium. It is a solution balanced so that it will create a normal acid base equilibrium whether an acidosis or an alkalosis exists. If one has a dehydration, then Hartman's solution is a safe solution to use and will restore to normal the chemical balance of the body tissues.

Dr. Lewis says that he uses protein milk and high carbohydrate, and that is what I do in babies who are not yet taking solid food. But in the older child I have found that a varied diet is better. I am frank to confess I was afraid this diet would seem to many of you rather bold to give to a ten or eleven months old baby with diarrhea, fever, etc. To jump right into strained soups of a certain character, and toasts and cereal and strained orange juice, I admit seems radical, but I built that diet up particularly for this specific thing, and I found that it worked.

REGIONAL ANESTHESIA BY THE NERVE BLOCK METHOD IN THE REDUCTION OF FRACTURES AND DISLOCATIONS*

R. K. Hollingsworth, M.D., Jackson

WHILE local anesthesia has long been used by many surgeons in various types of surgical procedure the adoption of its use in the reduction of fractures and dislocations has been extremely slow. Conway first advocated its use in 1885, reporting three cases of fracture of the radius reduced under cocaine infiltration anesthesia. The first reference in American Medical Literature is in an article by Cumston in 1918. Previous to this date sporadic reports appeared in the European literature, Reclus in 1903, Leida in 1907 and Quinn in 1908, reporting successful results by similar methods. Cohen in 1926 reports a series of thirteen cases, and advocates the use of local infiltration anesthesia in fracture cases in which a general anesthetic is contraindicated, and in ambulant cases. During the past five years the literature on this subject has gradually increased, most of the reports, however, dealing with local infiltration at the site of the fracture.

Technically, regional anesthesia, about which this paper deals, must be differentiated from that produced by the local infusion of the anesthetizing fluid into the part to be operated on. It may be obtained by one of two methods: (1) field block, in which a wall of anesthesia is injected around the desired area, effectively blocking of the nerve trunk to any given area by depositing the anesthetic fluid into or around the nerve or nerves supplying it.

During the past decade the use of sacral block anesthesia in surgery of the bladder, rectum, prostate, perineum, etc., has taken a decided step forward. More recently nerve block anesthesia in the reduction of fractures and dislocation of the extremities has come to be the anesthetic of choice by many men throughout the country.

Braun in 1913 reports the successful reduction of twenty upper extremity fractures and dislocations by brachial plexus block in a general series of fifty cases treated under local anesthesia. This is the first report found in the literature of a series of cases treated by nerve block method. Mage in 1927 gives a splendid report of fifty cases treated by this method, and Highsmith in 1930 gives a series of thirty-six cases. All were successful.

The observations in this paper are based on a series of twelve cases.

There are three requisites for an ideal anesthetic in fracture cases: (1) Safety; (2) There must be anesthesia; (3) There must be adequate muscle relaxation. Regional anesthesia by the nerve block method, properly administered, fulfills these requirements. As to the first, the injection of twenty to thirty c.c. of one or two per cent solution of novocain is about as safe as any anesthetic can possibly be. In regard to the second, anesthesia has been almost universally complete in all of the cases reported. The patient may be conscious of manipulation, particularly the handling of bones in open reductions, but while this is disagreeable and may be complained of, the patient will usually agree later that he suffered no actual pain. As to the third, muscle relaxation has been reported as entirely adequate in every case. Although complete paralysis is not present, motor function is considerably modified. The patient can move his fingers, wrist and forearm following brachial plexus block, but rarely, if ever, can he offer resistance to opposing effort.

INDICATIONS

(1) The type of fracture or dislocation should be one that warrants an immediate manipulative reduction under an anesthesia. Those requiring long traction and suspension are not suitable, as for example,

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16, 1931.

many fractures of the upper part of the humerus and femur.

(2) All cases in which a general anesthetic is contraindicated, such as senility, respiratory infections, cardiacs, shock, etc.

CONTRAINDICATIONS

So far as can be obtained there are no contraindications to this method of anesthesia. Livingston and Wertheim, in the study of the literature, found no permanent untoward results recorded in one thousand cases. The only serious complication was an occasional transient paralysis of the forearm in cases where brachial plexus block had been done, but this cleared up promptly without treatment.

In a nervous patient a hypodermic of morphia followed by reassurance from the operator will do much towards overcoming this difficulty. As a matter of fact a suitable dose of morphine should be given in every case just previous to injection.

ADVANTAGES

Nerve block anesthesia in the reduction of fractures presents many advantages.

(1) It can be used in all cases where a general anesthetic is contraindicated. The following are excellent examples:

S. C., age 70, was brought to the hospital suffering from a fracture-dislocation of the left ankle. Under popliteal block the fracture and dislocation were easily reduced under the fluoroscope. The reduction was painless and relaxation complete. This man was old, in shock, and had damaged kidneys.

A. T., age 70, had his foot and ankle crushed under a train. Immediate amputation was indicated and due to the age and feeble condition of the patient and the condition of shock present a general anesthetic was contraindicated. Under popliteal nerve block the leg was amputated in the upper third. Not the slightest pain was felt by this man during the operation.

General anesthesia was contraindicated in both of these cases because of their age, the shock present and their general poor condition.

(2) Accidents have no particular predilection for the time at which they occur. They all come in as emergencies, are never prepared, and you have all probably noticed the frequency with which these patients arrive just after a full meal. Invariably with a general anesthetic there is vomiting with its attendant discomfort to all parties concerned, not to mention the added danger of aspiration pneumonia.

(3) Complete relaxation, necessary for satisfactory manipulation and reduction, is not obtained with a general anesthetic unless the stage of deep surgical anesthesia is reached. As many of these fractures, particularly those of the upper extremity, can and should be treated in the office the giving of a general anesthetic to the point of surgical relaxation and then sending the patient home as soon as he has reacted is dangerous and should never be done as a matter of choice. Furthermore many patients dread and object to a general anesthetic and will often endure almost any amount of pain rather than submit to it.

(4) Perhaps one of the most important advantages is that it permits of manipulative procedure being carried out under the fluoroscope under the most favorable conditions. Anyone who has ever attempted it knows the difficulties and potential dangers of administering a general anesthetic in a dark room. Manipulations are more apt to be hurried with consequent impairment of results. With nerve block anesthesia "the anesthetic can be given in the operating room under ideal conditions for strict aseptic technic and the patient then carried to the fluoroscopic room where reduction may be effected deliberately and unhurriedly, with the assurance that the anesthetic will last from one to two hours." The advantages of reducing fractures under the direct vision of a fluoroscope cannot be stressed too strongly. Less manipulation is required and when, as so often occurs, a piece of muscle or fascia is interposed between the fragments making permanent reduction impossible, this fact can be noted at once, all manipulations stopped and further appropriate treatment instituted. This is well illustrated in the following case.

A. R., age 22, farmer, came into the office suffering from a fracture of both bones of the forearm. Brachial plexus block was done and under the fluoroscope reduction was attempted. Anesthesia and relaxation were both complete. It was soon seen that, although the fragments could be placed in perfect alignment, permanent reduction was impossible. The ulna slipped as soon as any attempt was made to apply a splint. Immediate preparation was made and an open reduction done under the same anesthesia. At operation a piece of muscle was found between the fragments.

The difficulties attending reduction of fractures of the shaft of the humerus and femur are well known. Complete relaxation is essential and reduction under the fluoroscope is invaluable. The following are illustrative:

R. P., age 26, admitted to the hospital suffering from a fracture of the right humerus at about the middle. Under brachial plexus block complete anesthesia and relaxation were obtained and the fracture reduced under the fluoroscope.

H. J. was admitted suffering from a transverse fracture just above the middle of the right femur. Using sciatic and anterior crural block and under the fluoroscope the fracture was easily reduced.

In both of these cases closed reduction would have been extremely difficult, if not impossible, without the aid of the fluoroscope.

(5) Many large series of cases have been reported of the reduction of fractures under local infiltration anesthesia and advocates of this method are enthusiastic in its support. Bohler reports over two thousand cases and general anesthesia is the unusual procedure in his clinic. Theoretically, at least, the injection through the skin of an anesthetic down to the site of fracture immediately converts a simple fracture into a compound fracture. "The infiltration of an anesthetizing fluid into or about traumatized tissues associated with bone and joint injuries is unsurgical and certainly should be contraindicated in a compound fracture or a simple fracture with a great deal of trauma and contusion of the muscles." Nerve block anesthesia produces anesthesia in the involved area without the disadvantage of further damaging tissues already badly damaged by the injury.

(6) Practically all fracture cases, if seen early, are found suffering from some degree of shock. Any form of treatment which minimizes additional shock is decidedly of great advantage. Nerve block anesthesia by blocking all afferent impulses to the central nervous system reduces additional shock to a minimum.

(7) The application of the immobilizing bandages is greatly facilitated by having the patient awake and able to cooperate with the surgeon. The difficulties of applying a splint or plaster of paris bandage with a patient either completely relaxed or making an attempt to get up off of the table while coming out of a general anesthetic, have probably been experienced by all of you at one time or another. Many a perfect reduction has been ruined at this time. Such a condition cannot prevail with nerve block anesthesia.

The nerve to be blocked will depend upon the site of the fracture and the individual choice of the operator. The only essential rule is to block high enough to get sufficient muscle relaxation. In the upper extremity brachial plexus block is, I believe, the most satisfactory in all cases above the lower two or three inches of the forearm. Fractures or dislocations below this point can be handled very satisfactorily with block of the median, radial and ulna nerves at the elbow. Nerve block around the wrist joint can be done for fractures of the metacarnal bones or fingers, but as injection at the elbow is more easily done it is recommended. Anesthesia of the fingers is easily and simply obtained by the injection on each side of the finger. In the lower extremity sciatic and anterior crural block probably serve best in all cases above the middle of the tibia. Below that point popliteal block is excellent. Injection around the ankle joint for foot fractures has been successfully done, but here again popliteal block is recommended as being more easily carried out and just as effective.

The actual technical procedure of the various blocks will not be discussed in this paper as they can be obtained in any good recent book on regional anesthesia.

SUMMARY

(1) Anesthesia by the nerve block method fulfills the three cardinal needs of an anesthetic in fractures and dislocations, viz: Safety, anesthesia and muscle relaxation.

(2) It has numerous indications and so far as can be determined no contraindications.

(3) Seven very definite advantages have been given.

(4) While this paper is based on a comparatively small series of cases, the results confirm those reported by other men.

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DISCUSSION

DR. T. R. RAY (Shelbyville): Mr. President and Gentlemen: I am very grateful to Dr. Hollingsworth for bringing this paper to the attention of this society. We are all familiar with the growing popularity of local anesthesia since the advent of novocain and similar drugs that carry with them all of their properties of pain relieving and reduce to a minimum their toxic principles.

The paramount aim of every physician in treating fractures is to approximate as nearly as possible perfect results. In doing this it is left to the individual surgeon to determine the method of anesthesia he must use.

Local anesthesia can be used in the reduction of fractures and dislocations very advantageously in the type of cases the doctor has just mentioned. I remember only a few days ago a little child two and a half years old was brought to my office with a fracture of the femur at its mid-section. The parents strenuously objected to a general anesthesia, and under the method mentioned by Dr. Hollingsworth I was able to reduce that fracture and apply a cast with perfect comfort to the patient and with entire satisfaction to myself. Yet we all know that local anesthesia in children in most cases is very unsatisfactory.

I feel, as Dr. Hollingsworth does, that local anesthesia is not intended to be used in the treatment of all cases of fracture, and we should select our cases. The cases in which it is applicable can be treated in a most satisfactory way.

If I had a criticism to offer to his paper, it would be in the cases he referred to in which he attempted to or did reduce while they were in a state of shock. I do not believe that it is ever imperative to reduce a fracture or a dislocation while our patient is in a state of shock. There is ample time to treat the shock and allow the patient to return to a normal condition and then proceed with our reduction.

I wish to thank the doctor for his excellent paper.

DR. C. R. CRUTCHFIELD (Nashville): I think Dr. Hollingsworth's paper is very timely, and one which is quite adequate. Since the Cleveland disaster, many of the hospitals have not encouraged any sort of anesthesia in the x-ray room because of fear of explosion. For that reason an anesthesia which is given in an operating room and the patient carried to the x-ray room and reduced under the fluoroscope is very timely.

A fracture that is reduced under the fluoroscope and put up in that position we know is much better than one put up in the operating room and x-rayed the next day and then subsequently, if it is not correct, reduced again.

I believe that this is not applicable to all types of fractures, for one reason mainly, because it is not congenial to all surgeons to do work under local anesthesia. It requires a certain amount of precision to induce nerve block, and unless a surgeon is patient and has time to give a good anesthesia it is not going to be satisfactory to him or to the patient.

In block anesthesia, especially in fractures around the hip, while the doctor did not mention the low spinal anesthesia, I think in cases in which we wish to do reduction of the hip, a low spinal at times is very satisfactory and will often be a life-saving thing, because many of the patients that are very fleshy don't take a general anesthesia.

DR. J. C. WILSON (Rockwood): I want to offer my approval of this method of anesthesia in traumatic injuries and especially in these cases in which we have shock. Of course, there is 99% of shock in all cases of injury, but some of them are very slight and will need no very great consideration. A large percent of these cases the shock is so severe and the condition of the patient from the injury is such, on account of hemorrhage, etc., that we have to interfere and at the same time treat the shock, and in that case the local anesthesia or the spinal anesthesia are very valuable.

I have found that if you have time, sodium amytal helps out a wonderful lot in giving local anesthesia, and if you have 10 or 14 hours in which to prepare patient, sodium amytal should be given by all means, if you intend to give a local anesthetic.

Give a dose of sodium amytal the night before or six or eight hours before the operation, then a 10-grain dose two or three hours before the operation, after which you will get a better relaxation and better effect from your local anesthetic and the patient probably will not be disturbed or have any pain whatever in the amputation or manipulation of the parts.

In the amputation of the lower extremities some two or three times I have had patients come in with both legs crushed off above the ankle and above knees, in which the shock was so very great and the hemorrhage so severe, it was necessary to do something immediately. There was no way the hemorrhage could be stopped without an anesthesia and in these cases the spinal anesthesia was given and the treatment for the shock by hot drinks and fluids was kept up during the operation, and we were able to do the amputation safely and successfully.

In these cases, morphine, previous to the local anesthesia, is one of the best remedies for shock. Spinal anesthesia by the Spinocain method in which the novacain is suspended into a fluid of a lower specific gravity than the spinal fluid makes it possible to control the line of anesthesia.

It can be done by the elevation of the table, giving anesthesia, to the perineum, including the perineum or up to the pelvis or the umbilicus, or any point that you may wish, and it is very satisfactory.

Local anesthesia and spinal anesthesia certainly have given us an advantage that we have never had before in the treatment of the border line cases.

DR. E. T. NEWELL (Chattanooga): I do not wish to prolong the discussion unnecessarily on this important subject, and, as Dr. Wilson said, "I arise to approve of the method"; but to do good work along the line suggested by the essayist you should be of dual personality: you should be a first-class bone-setter and you have to be a first-class anesthetist as well.

You know, you men who do surgery, that many of you are splendid surgeons, but very, very poor anesthetists—in the use of local anesthesia. You haven't the patience or the time; or you do not care to perfect yourselves in this particular technic.

The procedure which has been brought to you by the essayists, and which is a splendid one, in selected cases, is not going to be generally popular and be as efficacious as it should be, until the men who are setting bones perfect themselves in "regional local anesthesia."

The essayist rather decries the method of infiltration, saying that you convert a closed fracture into an open case, if you inject around the site of the fracture. That is a much easier and simpler method, as you know; it is a splendid method as well. Dr. Hollingsworth referred to the infiltration method as having been used in a large number of cases.

I have been trying to get away from general anesthesia in fractures for ten or fifteen years, and my experience has been very satisfactory with simply the "infiltration method" around the site of the fracture. I have done some regional blocking, especially around the elbows where it is simplest and easiest to carry out, with good success. I have had no morbidity in my infiltration work although you do, in a measure, convert a closed into an open fracture. I believe if you will go well above the site of the fracture and be very aseptic, you can go down to that bone, especially if it is the wrist, or in a child, or in a frail, thin adult, or where the muscles are not very thick, without difficulty, and with a degree of safeness with regard to infection. Anesthesia is usually readily produced, and manipulations done painlessly.

I want to express my appreciation to Dr. Hollingsworth for bringing this subject before us, but as I suggested in the beginning, you will have to perfect yourselves in regional anesthesia, if you are going to do away with the general anesthesia in the treatment of fracture cases in general.

DR. R. K. HOLLINGSWORTH (Closing): With regard to what Dr. Ray brought out about shock, I didn't want to leave the impression that we took the patient in such bad shock and immediately put him on the table and gave him an anesthetic and went right ahead with him regardless of the shock. But with a patient who has come in suffering from shock, you can institute your treatment for shock, give him a hypodermic of morphine, and he remains quiet a little while and to all clinical appearances has recovered from his shock. Still, to give him a general anesthetic or attempt a reduction without any aneshtetic is going to add further damage to a nervous system which has just recovered from the shock of the accident.

Of course, the time element enters into it. It does take a little time, even after you get your injection, for the anesthetic to take effect, but I feel the time is well spent in the reduction of shock, because during that time, perhaps an hour that it takes altogether, your patient is recovering from the shock of his accident. Many cases come in highly nervous and upset over the accident, and, of course, the morphia tends to quiet them, but still they complain. Following the nerve block the pain is relieved and they immediately begin to feel fine.

Sodium amytal I think is very satisfactory in cases of local anesthesia, whether for fracture or other surgical procedures where local anesthesia is used. If it is not planned to reduce the fracture perhaps for a matter of a couple of hours, sodium amytal can be given, and I think it quiets the patient and helps a good deal.

Of course, I realize, Dr. Newell, that most of the literature, as I said in my paper, is on local infiltration. I feel that in a great many fractures local infiltration probably gives very good effects, particularly on wrist fractures. In fractures of the long bones, I have never been able to get quite as good muscle relaxation with just the local infiltration at the site of the fracture as, in the humerus, for instance, with a brachial plexus block.

When putting on the bandages after the anesthetic has been given, one must be very careful. As the patient complains of no pain, you could bring the part around in a complete circle and he wouldn't say a word. Great care must be taken in handling these patients that we don't abuse the completeness of the anesthesia that we have.

THE MANAGEMENT OF ECLAMPSIA*

J. R. McCord, M.D., Atlanta, Ga.

I AM particularly glad to be with you, and I am anxious to try to sell to you what we believe to be an absolute truth, that eclampsia is a medical disease and is best treated in the vast, vast majority of cases in a medical way.

We are going to discuss the subject a wee bit as to pre-eclampsia and eclampsia. It is true that eclampsia in the great majority of cases can be prevented, but it cannot be prevented in 100 per cent of the cases by any means.

It is well, in starting our discussion on the subject, to realize just what the pathology is in eclampsia, that it is a liver pathology and that it is not a kidney pathology. The pathology in the kidney is either hemorrhage, necrosis, or thrombosis. The changes of the kidney that come as the result of toxemias of eclampsia are secondary; they are degenerative changes, not inflammatory changes; they are transitory changes, they are not permanent changes. They are in the tubules of the kidney, the epithelial lining, and are not in the glomeruli of the kidney.

It would seem that a condition that causes 30 per cent of all the maternal deaths in the United States and that have caused 30 per cent of all the maternal deaths over a period of time is well worth discussing. I don't know how the thing has ever been handed down in medicine, particularly in obstetrics, that every woman, regardless, almost, of what she has, just because she happens to be pregnant must be delivered. I think that it is probably true that in the vast majority of acute constitutional conditions or chronic constitutional conditions that women have with a pregnancy, the woman is very much better served by certainly for a length of time ignoring the pregnancy and treating the condition.

In my own clinic at Atlanta the other day my assistant resident came to me and said, "There is a woman in the labor room that I would love to have you see." This was a multiparous woman who had been in labor two or three days. She came into the hospital with a temperature of 103 and a pulse of 140, with a long rupture of the membrane. I asked the woman what had been done for her and if she had gotten anything in the arm, and she said she had had two shots in the arm.

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I said, "Did it do you any great deal of good and relieve your pain?"

"No, my pain was terrible."

There was that woman, with a breech presentation which we were not able to recognize at that time, with a tightly contracted uterus, with a temperature of 103, a pulse of 140, suffering from shock. I turned around to the resident and said, "What would you do with this woman if you had her in private practice?"

"Deliver her immediately."

I said, "Yes, and you would kill her."

We gave the woman a half grain of morphine, some sodium amytal by mouth, fifteen to twenty drops of adrenalin to relax her uterus, some glucose intravenously, and let her alone. In eighteen to twenty hours the woman went on and delivered perfectly normally without any trouble in the world.

I can remember in our own clinic when our mortality from convulsive cases of toxemia ran around twenty to twenty-five per cent. In our last 100 cases our mortality has been three per cent.

I wish that not only the doctors of this country but the women of this country could be made to realize that the mortality rate from cesarean sections as generally done over the United States would average around ten per cent. Gentlemen, that is an absolutely true statement. The statistics that have been reported on cesarean sections done in convulsive toxemias in cities like New Orleans, Detroit, Dallas, Los Angeles, Brooklyn, and so forth, show a maternal mortality rate anywhere from twenty-five to forty per cent.

If I were permitted to use only one instrument for my pre-natal work, I would unhesitatingly use the blood pressure apparatus. If I were permitted to have but two instruments, I would take the blood pressure apparatus and a good pair of scales. And if I had the time and the facilities I would examine the urine. I mean to say that I don't think there is any question but that the examination of the urine is the very least important thing that can be done in picking up early toxemias of pregnancy. It is unquestionably true that the vast majority of cases of toxemia of pregnancy have an elevation of the blood pressure, an elevation sometimes gradual, an elevation sometimes rapid, and it is also true that the vast majority of women who develop an acute hepatic toxemia, whether convulsive or not convulsive, develop a marked increase in body weight. I think it is probably true that women will do better in pregnancy if they are allowed to gain only seventeen to twenty pounds during the pregnancy. I am quite sure that twenty-five pounds is the upper limit of normal, and when preganant women begin to gain over twenty-five pounds, providing they started their pregnancy with a normal body weight, they are beginning to get on dangerous ground.

I wish I knew some specific treatment for pre-eclamptic toxemia. The only difference between a pre-eclamptic toxemia and eclampsia is one or more convulsions, and a woman can be just as sick with a pre-eclamptic toxemia without having any convulsions at all.

This much is absolutely true, that prenatal care in the prevention of toxemias cannot be adequately given unless the doctor sees his patient frequently. The patient must be seen. There are certain evidences of toxemia that you well know that I don't have to mention that can only be gotten by an observation of your patient. Why have a woman come to your office every month or every two weeks up to seven or eight months and you find that where she has been running a blood pressure of 120 80, her blood pressure has jumped to 135 95? Gentlemen, there is your first evidence of an approaching toxemia, and it should never be ignored. The woman should be sent home, should be put to bed, should be given enough saline laxative to make her bowels move eight or ten times a day, she should be put on a milk diet or fruit juice diet and treated along these lines. If this will not relieve a mild or moderate toxemia of pregnancy, I don't know anything else that will. We have never had any results at all from our so-called specifics.

I think unquestionably one of the causes of high maternal death rate in this country is the exaggerated idea or notion that we put on fetal life. I cannot see why a woman who blows up with a severe toxemia of pregnancy around the seventh month, after she has had a legitimate trial as to what her toxemia is going to do with absolute rest, with elimination, with diet, and so forth, should be temporized with for the sake of a child that, to say the least, will be problematic. Once a woman blows up in a pregnancy with a toxemia of pregnancy and under conservative treatment, rest, and so forth, that toxemia improves, she is very much more of a risk in the continuation of that pregnancy than she was the first time. I mean that when she gets up out of bed she has got to be watched very closely, because in all probability if she has long enough to go she will blow up with another toxemia before the end of her pregnancy.

We can define toxemias as mild, moderately mild, and severe, and, of course, with the mild toxemias you aren't taking much chance; with the moderately mild and the severe you are taking chances, and we believe that it is very much better to go on and induce labor on these women even at seven and eight months if they have a severe toxemia, and be sure and lose the baby, rather than to run the risk of taking them through a pregnancy, particularly if they are where we can give them the very best of attention and supervision.

Hunting around in our clinic (we will mention this later on) for some easy method of induction of labor, following the idea of a gentleman in Boston (unfortunately I have forgotten his name at the moment), we have been rupturing the membranes. These patients are properly shaven and prepared, we ourselves are properly prepared, we instill into the vagina an antiseptic solution of some kind, either mercurochrome, metaphen, ST-37, or anything you want, and rupture the membrane. It is not the rupture of the membrane that starts the woman in labor. The thing that starts the woman in labor is the loss of amniotic fluid, and in primiparous women at or near term in which the head is fitting well down into the pelvis, the head must be pushed out of the pelvis so that the majority of the fluid leaks out of the uterus. Usually these women go into labor quite promptly. Unfortunately, all of them do not. In those cases that do not, that drag along, we instill into the vagina every four hours an ounce of some one of these three antiseptics to try to keep down infection. Occasionally, after eight or ten hours' wait, we will give these women two minims of pituitrin hypodermically. Gentlemen, that is the only place in obstetrics that we use pituitrin before the birth of the baby except in an accidental separation of the placenta. We give them two minims of pituitrin and repeat it every thirty minutes for four or five doses. If the woman goes into labor after the first dose of pituitrin, we do not give the second; if she goes into labor after the second dose of pituitrin, we do not give the third.

What do we do with our convulsive toxemias? Our clinic is entirely colored. It serves a population of some 75,000 or 80,000 people who are mostly charity cases, and we have had quite a wide experience in the disease. When I was house surgeon for Dr. John O. Polak in Brooklyn about twenty-two or twenty-three years ago, Dr. Zinke of Cincinnati believed that veratrum was specific in eclampsia. I saw a great many cases, both in the Brooklyn Hospital and at the New York Lying-In Hospital, of eclampsia that were treated by veratrum. I have mentioned this because I have never made a talk on eclampsia that the question has not come up. I can tell you absolutely that magnesium sulphate in the treatment of eclampsia is incomparably better than the use of veratrum viride and is much safer for the patient, and that magnesium sulphate will, in a great many more cases, more promptly control the convulsions than will veratrum viride. Veratrum viride will not by any means control convulsions as well as magnesium sulphate.

The routine in our clinic is something like this. The woman comes in having eclamptic convulsions. The first thing that is done for her is that she is given a quarter or a half grain of morphine, depending rather upon the size of the woman. Then she is given 20 c.c. of a 10 per cent solution of magnesium sulphate intravenously. I don't think the strength of the solution has anything to do with it; I think you can use a 30 per cent solution, a 25 per cent solution, or almost any sort of solution that you want.

We also believe that magnesium sulphate can be used in the muscle just as well as in the vein, and probably get just as good a result, although in our clinic we have usually used it in the vein. By the way, when it is given in the muscle it is to be given deep in the muscle and not under the skin.

The magnesium sulphate is repeated every hour, dependent upon each individual case. We have never seen a case in which we thought we had magnesium sulphate poisoning except one. That case died three days later (it was a pre-eclamptic toxemia) from a pneumonia, and she probably did not have magnesium sulphate poisoning.

Magnesium sulphate acts in three ways. It acts by drawing the fluid from the wet brain and diminishing the coma, by acting on the involuntary muscle fibers, drawing the fluid from the body tissues and putting it into the blood, and by increasing the elimination by way of the kidneys.

In the vast majority of our last 100 cases that we have treated along this line, convulsions have been controlled with one or two doses of magnesium sulphate. We have had one or two cases in which we couldn't control the convulsions with magnesium sulphate and finally had to use intravenous sodium amytal, but in the great majority of them the convulsions are controlled with two or three doses.

Just as soon as the convulsions are controlled, what do we do? We try to get sugar back into the liver which has been depleted; we try to get fluids back into the body which has become dehydrated; and we do this by intravenous injections of 20 or 25 per cent glucose solution into the vein. If we get a reaction from glucose, we know that it is faulty technic. It should be given in solutions made up with glucose that has been prepared in pharmaceutical houses, it should be given in fresh distilled water, and it should be given very, very slowly. If these three points are taken care of we do not have reactions from the intravenous use of glucose.

The glucose is given every eight hours regularly intravenously. If we have trouble giving it intravenously, we give a weaker solution under the skin.

Up until this time there has been absolutely no attention paid to the patient's pregnancy at all, and it is absolutely astounding, gentlemen, to see these women come into the clinic with a history of ten, twelve, fourteen convulsions, absolutely comatose between convulsions, and within six or eight hours after admission to the clinic be perfectly conscious, perfectly rational, and giving their history to an interne.

Until we get the woman back down on the ground, until we get the sugar in her, until we get the fluids in her, until we get the convulsions controlled, we don't pay any attention to the pregnancy at all. When that happens, then we do. We keep up the magnesium sulphate during the time the woman is in labor, not at one-hour intervals, but just as may seem necessary, and many times we stop it intravenously and start it intramuscularly. We keep up regularly the dextrose intravenously every eight hours. If we don't think we are getting enough fluids in that way, we give saline hypodermoclysis. We would much rather give 250 c.c. of a 20 or 25 per cent solution than give 1,000 c.c. of a 10 per cent solution. We want to get fluids in and we want to get sugar in. We would like to get sugar in the vein, but if we need more fluid we would rather put it under the skin where absorption would be a little slower.

We rupture the membrane and start the woman in labor as we suggested, and every case is treated just as a normal labor case. We don't do anything at all because the woman has had convulsions.

The other day we had a woman come into our clinic who had had convulsion after convulsion. She was a primiparous woman and the head was riding very high, absolutely not engaged at all, a perfect case for a cesarean section. Why? Because eclamptic convulsions were there, because the head was unengaged, because she was a primiparous woman, because there was no dilatation of the cervix. The things that make for convulsions were controlled, she was given fluid, her membranes were ruptured, she went on into labor and delivered perfectly normally and spontaneously.

While we did get a 25 per cent mortality in eclampsia, we are now getting 3 per cent mortality. We are getting a very much better mortality in babies. You can remember when babies were born of eclamptic mothers and a few hours or a few days after birth the baby would have convulsions and we would say, "Well, the baby has the disease from its mother." The baby had a brain hemorrhage because it was dragged through vaginal parts that were not ready for delivery, by forceps or by an internal podalic birth.

You can all remember when a man who was run over by a railroad train and his legs crushed was taken to the hospital, his legs amputated, and he died. If a man is run over by a railroad train now, he is taken to the hospital, he is treated, given fluid, and gotten down on the ground, the leg is amputated under a local anesthetic, and he gets well. Gentlemen, that is the very thing that is happening in these clinics in America that are advocating cesarean section in the treatment of eclampsia. Dr. DeLee, for instance, who is a very good friend of mine, and I owe a lot to him, believes in certain cases of eclampsia a cesarean section should be done. What is the difference? That case goes into his clinic, it gets fluid, it gets sugar, it gets magnesium sulphate, the woman gets back down on the ground, and he does a cesarean under local anesthetic. He is working under his own environment. He disseminates that knowledge, and what happens? A woman is taken from the country, having convulsion after convulsion, into a hospital in the city, taken to a room where her clothes are changed and she is given a general anesthetic there without even antiseptic surroundings, a cesarean section of some type is done on her, and the mortality runs anywhere from 20 to 40 per cent.

I plead with you for a conservative treatment of eclampsia. I am absolutely sure that it will work, because we are doing it every single day of our lives and we are sending students out to practice obstetrics in the Southern states who believe that the conservative treatment of eclampsia will work.

Gentlemen, it is not the path of least resistance. It is sort of like the proper treatment of placenta praevia. When that diagnosis is made, the doctor has not done his duty by his patient if he leaves her before the baby has been delivered and the placenta and the uterus and the vagina packed. The treatment of eclampsia by the conservative method is not the line of least resistance; it does take longer; it does take more detailed observation, but I will assure you that it will pay huge dividends in maternal and fetal lives.

I thank you very, very much.

THE PROBLEM OF PULMONARY TUBERCULOSIS IN THE HIGH SCHOOL AGE GROUP*

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THE object of this paper is to call attention to the problem of pulmonary tuberculosis in a much-neglected period—that extending from the twelfth to the nineteenth year and embracing approximately the time spent in high school. The neglect probably comes from a lack of understanding of the nature of the disease at this age, and from failure to grasp the importance of keeping those in this particular age group in the best possible physical condition.

In approaching the subject there are two facts that should be borne in mind: Practically all children who are "contacts," that is, who are exposed to an open case of tuberculosis, acquire a tubercular infection at a very early age; and, secondly, children not so exposed tend to show a considerable percentage of infection before reaching the age of twelve years. Thus we can safely assume that a large proportion of children twelve years old or more harbor a definite tuberculosis infection.

Fortunately many of these are able to take care of the infection, and never seem to suffer the least ill results from it; probably due to high natural resistance, good care or to both these factors. Others, not so fortunate, are unable to hold the infection in check and develop tuberculosis.

This does not mean that these children have pulmonary tuberculosis; in fact, it is rare, except perhaps in Negro children, that we find the adult or common form of the disease in those under twelve years of age. But what is usually present is an involvement of the glands in the tracheo-bronchial group, the lungs themselves being clear.

Symptoms may be slight and should, therefore, be looked for the more carefully; when present they usually include one or more of the following features: Fever, which may, however, be hardly noticeable; subnormal weight, a tendency to fatigue easily, a poor appetite and frequent colds. Pleurisy, particularly with effusion, is a most important symptom and not infrequently present. Physical examination does not often give much aid; the tuberculin test is a source of outstanding assistance in establishing the presence or absence of a tubercular infection; and the x-ray is of the greatest value. Pictures should be most carefully made, however, and most capably interpreted. Whatever the difficulties of diagnosis, these cases should be recognized and carefully followed, since it is among these children that the majority of pulmonary cases develop.

Treatment is a matter of paramount importance; for, in proportion as these patients are carefully treated, are they spared from developing pulmonary tuberculosis. Fortunately this treatment is not complicated, although it demands care and faithfulness. Whenever possible, exposure should be eliminated; that is, the child should be separated from the infecting "open" case; children who are contacts should be freed of defects such as bad teeth and infected tonsils; food should be carefully selected and there should be enough of it; these patients should be kept in bed as long as any fever is present; finally, they should be re-examined regularly over a long period of time in order to diagnose at the earliest possible stage any pulmonary extension that may develop.

Unless such precautions are taken, and continued until these children have passed through the adolescent period and have reached full maturity, there will persist this sad picture: High school students, and other boys and girls of corresponding age who break down with pulmonary tuberculosis and die, or are crippled for life just when they should be in their best physical condition.

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*Read before the Tennessee State Medical Association, April 14, 15, 16, 1931.

It is interesting to study some of the factors which may have a part in producing these break-downs: The high school period is one of great strain, possibly too great; there are, for instance, the problems of the grammar school graduate who is now carrying much heavier burdens, and, sometimes, is facing a less complete and sympathetic understanding than he needs; there is the extra load carried by those who are trying to play on some team; there is the inadequate rest left for those who are doing outside work while in school; there must be considered the occasional desire among girls to diet for the sake of reducing; and, also more marked among girls, are the vitality sapping physiological changes common to this period; finally, among both boys and girls, there is the more or less modern tendency to lead a strenuous social life and too often a somewhat dissipated one. The load, just described, is certainly no less in the case of those not in school, but who, usually, have to spend long hours in stores and factories.

With conditions as they are, it is very natural that we should expect to find a high incidence of pulmonary tuberculosis in this teen age period; and indeed it is everywhere alarmingly high. One would probably be safe in assuming that at least 12 per cent of all cases of pulmonary tuberculosis occur among individuals nineteen years old or younger. I have examined the records of all patients admitted into Beverly Hills Sanatorium during the past two years. Of these 14 per cent were in the age group just mentioned, and 21 per cent were twenty years old or less. Colleagues in two other institutions tell me that their observations have been much the same.

It will be interesting to study our cases somewhat more in detail. There were 37 patients aged twenty years or less; of these, 22, or 59 per cent, were far advanced upon admission; 12, or 33.5 per cent, were moderately advanced; and 3, or slightly more than 8 per cent, were incipient. This is probably no worse than occurs in other places. The sad fact is that, in general, these patients are nowhere diagnosed as early as they should be.

Reverting again to our cases, we are struck by the fact that, aside from the three incipient ones, all had tubercle bacilli in their sputum, indicating, according to the best authorities, marked advancement, and making the prognosis relatively unfavorable.

There were 22 white patients—8 boys and 14 girls; of these, one boy and two girls are dead, and another girl is in the terminal stage of the disease. There were 15 colored patients—3 male and 12 female; of these, all are dead except 5 girls, and 3 of these will probably die within the next few weeks. These facts would seem to indicate not only that pulmonary tuberculosis is very prevalent and very fatal in the group under consideration; but, also, that it is probably more common and more fatal among girls than among boys. Incidentally, our study seems to justify existing ideas as to the ravages of the disease in the negro race; for, with only two exceptions, our colored patients in the group studied have done badly.

On the other hand, our white patients who were included in the study have done well precisely in proportion as they were diagnosed early and treated carefully. The incipient cases, I might add, made prompt and apparently complete recoveries.

It now seems well to view the problem briefly in its broader aspects: While the general tuberculosis mortality has decreased enormously, the decrease in the teen-age period has failed to keep pace. During the decade ending with 1927, the age group extending from fifteen to twenty-four years showed a smaller decrease in the United States Registration area than did any other broad age group save one, alone—that made up of people past 65.

Furthermore, as in our local study, the female appears to have a higher mortality rate: From fifteen to nineteen years the death rate for girls is about 75 per cent higher than for boys of that group; and from twenty to twenty-fours, it is about 20 per cent higher for young women, we thus see an average disparity of nearly 50 per cent in the combined period. Let us remember, then, that there is a markedly higher mortality rate among young women than among young men; and that in the teen-age period it is almost twice as high.

Even with our knowledge of the enormous number of tubercular contacts, and realization that these tend under suitable conditions to flower into cases of pulmonary tuberculosis, and our feeling that the teen-age group is probably overburdened, and certainly inadequately safeguarded, we are still hardly prepared to comprehend the sacrifice of human happiness and waste of human life which are reflected in the death rates just studied.

The solution of this problem would appear to depend upon three steps taken in a carefully followed sequence:

1. Prevention of the development of pulmonary tuberculosis.
2. The earliest possible diagnosis of the disease.
3. Early and adequate treatment.

Much has already been said about prevention; it is perhaps worth while to repeat here the suggestion that every contact child should be watched with unusual care; removed, if possible, from the source of infection; kept clear of defects, fed adequately, shielded from unnecessary physical exposure, safeguarded from undue strain, and subjected to careful periodical examinations until he or she reaches complete maturity. Furthermore our high schools should require that all their students have a thorough chest examination made at least once a year.

Early diagnosis is most important and not always easy. In seeking a diagnosis one should use with extreme care all the aids available: History, physical examination and x-ray.

Ordinarily, the history is a source of much help. Among the points of especial significance are: Pleurisy, particularly when associated with effusion, hemorrhage, exposure, loss of weight and strength, fever, cough and frequent colds. Symptoms in our cases were in order of frequency: Loss of weight, loss of strength, cough and fever; about one-half gave a story of exposure; about one-third had a history of hemoptysis or frank hemorrhage; only a few had had pleurisy; and no one had a record of effusion.

A careful physical examination will nearly always reveal the presence of an active lesion at a comparatively early stage. Limited expansion and localized dullness are suggestive, and persistent localized rales in an upper lobe are almost sure proof of trouble. Very frequently, however, these rales are heard only after cough. Occasionally we find a basal tubercular lesion, but early tuberculosis is characteristically an upper lobe affair.

Routine x-ray study is most important. It not only affords the best possible means of determining the precise type of lesion represented, but frequently enables one to diagnose an early or deep-seated cavity and, occasionally, reveals the presence of an early lesion which cannot be demonstrated by any other means.

Sputum examination is mentioned only for the sake of completeness. A positive sputum nearly always means a late case, and our every effort should be to reach a much earlier diagnosis. Just here a word of caution is in order: much harm may be done by an incorrect positive diagnosis, and the greatest care should be used to avoid such a mistake.

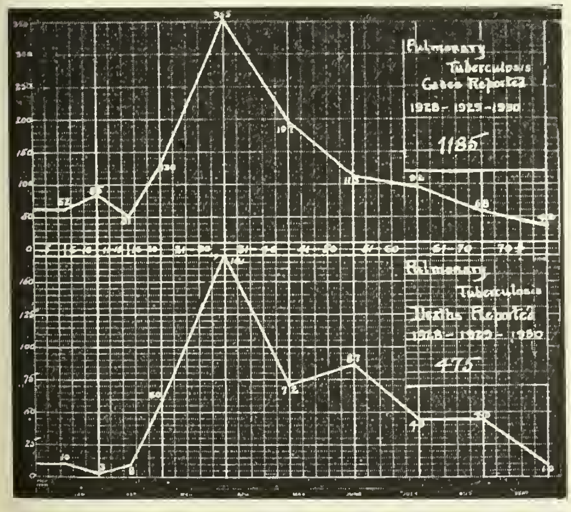
Treatment in the high school age group is a matter of unusual importance, largely because the disease tends to progress very rapidly in these patients. Complete rest should be prescribed from the first, and, for obvious reasons, this means institutional care if it is available. Diet should be a well-balanced and full one, but nothing is gained by stuffing the patient. In general, symptoms should be attended to and complications promptly met as they arise. Often surgical measures, such as artificial pneumothorax, phrenicotomy and thoracoplasty will be of great benefit, and these should be used whenever indicated. The treatment just outlined will produce cures in nearly all early cases and a gratifying percentage of more advanced ones.

The problem of tuberculosis in the high school age group is a very real one, as evidenced by the disproportionate incidence of the disease in the group, and by the abnormally high death rate, and it demands a measure of attention which it has never had. If, however, we now comprehend its seriousness and shall engage together to achieve a solution, the inevitable result will be a shielding of human happiness and saving of human life and a real move forward in the fight to stamp out a dread disease.

DISCUSSION

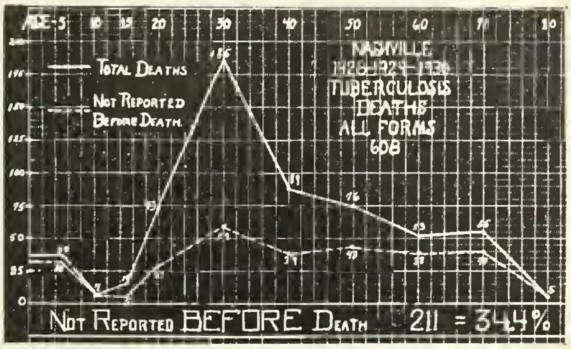
DR. W. M. HARDY (Nashville): I am sure that I speak for the whole audience when I thank Dr. Naive for his masterly presentation of this important subject. Tuberculosis as a menace to young manhood was first impressed upon me when I began practice in China. A large number of high school and college students there were infected. Though statistics in China are not available, I dare say that tuberculosis there takes even a greater toll from this age group than it does here in America. But this prevalence of tuberculosis in Chinese and negroes is due, I believe, to economic rather than racial factors.

As a confirmation of Dr. Naive's statistics, I have gone into the tuberculosis records of the Nashville Health Department. This chart shows the ages at which 1,185 pulmonary cases have been reported, and at which 475 deaths have been recorded during the years of 1928, 1929 and 1930. The peak of both curves is reached at age 30. Ages 11 to 20 account for 11 per cent of the white cases and 20 per cent of the colored. Twenty-three per cent of the white cases and 31 per cent of the colored cases occur in the first and second decades. This chart shows only pulmonary cases. There were 394 juvenile cases reported during this same period. As to race, 533 cases (44.9 per cent) and 285 deaths (60 per cent) were colored. These percentages are much more significant when I say that the population of Nashville is 30 per cent colored.



AGE INCIDENCE IN 1,185 CASES AND 475 DEATHS FROM PULMONARY TUBERCULOSIS
(Nashville City Health Department Records)

In contrast to early diagnosis, as emphasized by the essayist, this chart shows our Nashville figures on all forms of tuberculosis deaths; 34.4 per cent are not reported before death. When diagnosed, we do not know. We believe our Nashville doctors are diligent in reporting their cases and we therefore must conclude that too large a percentage of patients seek medical advice too late.

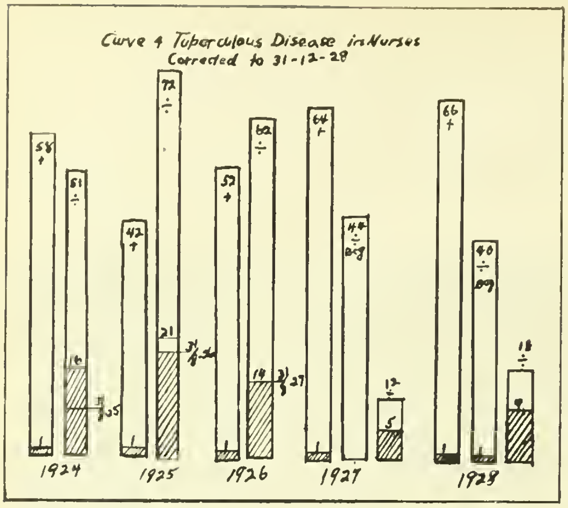


DEATHS FROM TUBERCULOSIS 1928, 1929, 1930.
34.4 Per Cent Not Reported Before Death.
(Nashville City Health Department Records)

Dr. Naive mentioned prophylaxis as the first step in solving the tuberculosis problem. It is along that line I believe our City Health Department has done and is doing effective work. All contacts of known cases are advised to be examined, and if necessary, the Health Department will take the contacts to clinic and x-ray. Visits are made by nurses to all homes of known cases, if the doctor in charge gives his permission.

Every parent of every public school child in Nashville has been asked to let us give his child the tuberculin test; 9,839 such tests have been made; 34.2 per cent of these pupils are positive, and have been advised to see their physicians for chest and x-ray examination. The 5,875 negative reactors have been advised to take the immunization conferred by BCG; 78.2 per cent, or 4,608 school children, have received the vaccination. Time forbids that I enter into a discussion of a question which, in some quarters, is still controversial. However, William Parks, of New York, reports a reduction of from 25 per cent to 5 per cent in the first year mortality of infants born into homes where open cases of tuberculosis exist. Heimbeck's experience with BCG given adults is equally striking, as shown by this chart.

In 1924, '25, '26, three hundred thirty-seven nurses entered training. All of these were physically fit. Housing, working and diet were the same; 152 were tuberculin positive (showing an immunity obtained from natural sources). Of these, three developed active tuberculosis within one and a half to two and a half years, a percentage of 1.3. From the 185 who were tuberculin negative, 51 nurses (27.5 per cent) developed active tuberculosis. During the following two years 224 girls entered training; 110 were positive to



tuberculin, and have furnished two cases of active tuberculosis; 84 were given BCG, and from them only one case of tuberculosis has developed. The 30 who refused BCG have furnished 14 cases, a percentage of 46.

Other instances with like results have convinced us that BCG does give an immunity to both infant and to adult, and we are using it believing that it will help solve the tuberculosis problem by preventing cases.

Again, I desire to thank Dr. Naive for his timely paper, and to thank you for your kind attention.

DR. J. A. PRICE (Memphis): Mr. Chairman and Gentlemen: In discussing this paper by Dr. Naive, I feel very much in the position of a little boy who has forgotten his verse to recite at Sunday School, and wondering what is going to happen to him, and the boy next to him recites, "God is love", and the other little fellow says, "He sure is." I feel very much that way about Dr. Naive's paper, because tuberculosis in the high school age group is the point of attack in eradicating tuberculosis or holding it in check.

I think it is conceded by all authorities on tuberculosis that an infection sufficient to produce the disease after thirty years of age is comparatively rare, and that 85 to 90 per cent of them get their infection during childhood, and it is a question of whether they get an overdose that is going to break them down, or a small dose at irregular intervals that is sufficient to establish immunity.

Statistics show us that 29 per cent of all deaths from tuberculosis throughout the United States occur between the ages of sixteen and twenty-six, mowing down the flower of youth.

What is the prevention? It will never be solved with any definite degree of certainty except as the well known laws laid down by Dr. Naive, prevention first, removing the source of infection, diagnosing our contact cases that have been infected early, and treating the child in such a way that his juvenile type of tuberculosis does not reach the clinical or adult stage, are practiced. I think as a whole the profession has on its shoulders the burden of making these diagnoses sufficiently early to prevent these boys and girls that fill our sanatoria now, with the clinical types of tuberculosis, from getting to that stage.

One very important point that Dr. Naive brought out that he did not stress is the question of differential diagnosis in tuberculosis in these early cases. There is a question in my mind as to which is the greater wrong, to diagnose a case that hasn't tuberculosis as tuberculosis, or to pass it up as not sufficient evidence to prove it is tuberculosis. I think the pendulum is swinging just a little bit to the opposite direction from where it has been, and many of us are too much inclined to say, when we look at an x-ray plate that is mottled from some cause or another, that it is tuberculosis. I don't think any of us are so good that in the early cases of tuberculosis, particularly in children and in young boys and girls, we can make a diagnosis from an x-ray plate or from a clinical examination or from any other means at our disposal without going into all of the history and getting all of the information we can. If our diagnosis can be made definitely, all well and good; if it can't, I don't think we do the individual justice in saying that he has tuberculosis, but treat him as such and try to prove that he hasn't. These young people have other things in their chests besides tuberculosis. They have many upper respiratory infections that you can't differentiate from the juvenile type of tuberculosis or possibly from the adult type of tuberculosis. I don't think we are warranted, in these borderline cases, in making a diagnosis of tuberculosis until we have eliminated all other possible causes.

It is a rather serious thing in a young boy's or a young girl's life at the age when they are probably taking up some profession or beginning their careers, to make a diagnosis of tuberculosis and put them out of the running for one year or two or three years, and then at the end of that time to find that they didn' have tuberculosis and their trouble could have been remedied by relieving the other defects that were causing the physical findings and the x-ray findings that they had in their chests.

I think it is up to us to do justice to these people. If they have tuberculosis, well and good, they should be diagnosed, but if we can't do it positively, treat them as such and try to prove that they have it if we can.

DR. WILLIAM LITTERER (Nashville): Mr. President and Gentlemen: Dr. Naive has sounded the keynote in emphasizing early diagnosis and prophylaxis. He stated also that most cases of tuberculosis begin early in life. Some may escape but later on develop the infection.

It is believed that a certain amount of immunity is obtained from such an infection and that it is desirable, provided the infection is not too large to overwhelm the patient. But how are we going to measure the dose? Many of these cases get overwhelming doses and die, because they have no immunity. It seems to me that the line of procedure would be in early vaccination. If we have something with which to immunize or partially immunize the individuals early, we will go a step forward in the way of protecting a great number of such cases from an overwhelming infection, or at least if they were immunized they would stand a far better chance than if they were not.

The administration of the Calmette (B.C.G.) vaccine, I think, has great possibilities. At least it is worthy of a trial, especially since it is harmless. All the countries of Continental Europe for four to six years have been using the vaccine, until now more than one million individuals have been vaccinated. America and England have been quite lethargic in taking up the vaccine. Only two workers in this country have used it on a fairly large scale, viz: Dr. W. H. Park, of the Department of Public Health, New York City, and Dr. John Overton, City Health Officer, Nashville. Dr. Overton has given the vaccine to nearly 5,000 individuals within the past two and a half years, and a thorough record is kept of each case. The preparation of the vaccine, according to Calmette, is quite tedious and takes great care to prevent contamination and to follow out his technique. The vaccine deteriorates in about two weeks, hence should be freshly made up. I am of the opinion that every individual, showing a negative tuberculin test, should receive the vaccine. It is harmless and gives promise of doing some good. It is worthy of a trial.

DR. L. T. STEM (Chattanooga): Mr. President and Gentlemen: The thing that seems to be foremost in our ideas of diagnosis is the early case; that is, we want to diagnose the case as incipient tuberculosis. What is incipient tuberculosis? Of course, the ideal would be the first tubercle found in the lung.

In 1928 I was fortunate in being with Dr. S. E. Thompson, of Kerrville, Texas, who had just made a very extensive study of this very question. He says that he doesn't believe it is possible for any doctor to make a clinical diagnosis of an incipient tuberculosis, that when that case reaches the stage in which he can find clinical symptoms from his stethoscope or from percussion notes, it has already passed beyond the question of incipient tuberculosis; that when he gets rales in an apex, it also already has a space outside the bell of the stethoscope, probably three or four times as large; that that is also true when you get an x-ray, that even though the x-ray shows involvement, maybe, in a small area, there has already passed beyond that, involvement that the x-ray will not show.

Of course, we are left then only to our tuberculin test and to the clinical symptoms as manifested, malaise, elevation of temperature, probably gastric symptoms, probably night sweats, loss of weight.

I would be glad for the essayist in closing to tell us if he feels that he can diagnose a case of incipient tuberculosis at the very earliest moment in which it probably is an incipient case.

Last week or the week before I was with Dr. Thompson again, and he discussed this thing very forcibly with me again, that he was not able and had not been able to feel that he could diagnose a case when it was really an incipient case.

DR. J. B. NAIVE (Closing): Taking up the discussions of the gentlemen who were kind enough to speak on my paper, in reverse order, I would say to Dr. Stem that I feel awfully lucky if I do get them very early. Actually, I doubt if you can get them on physical examination at the absolute incipient stage. There was a time when I got very ambitious and I thought by studying hard I could learn to diagnose them before the rales stage, and I decided later on that I could not. Maybe other people can; I can't.

As to the x-ray, I firmly believe that in a certain small percentage of cases the x-ray will show a shadow before you can hear anything in the chest. I know a case over in Nashville where all of us at the hospital and the men who came in in consulting capacity couldn't get it. Nobody got it, that's all, and yet there was a fairly definite, fairly extensive shadow in that chest.

I would like to say that I think the only thing at all is to try to get these people as early as possible, to prevent it if possible, to do all this prophylactic stuff that I have talked about and that the other gentlemen have talked about, and then hope you can get the others very early. I am sure that if you do get them, even at the earliest time they can be diagnosed by the symptoms Dr. Stem mentioned, by the x-ray, and by the physical examination, all thrown together. You can get excellent results in almost every case if you can get them early enough so you can put them under proper treatment.

I want to pay my hearty tribute to the work being done in Nashville. I have not had the privilege of doing any more than help them in a slight way in their BCG work before I left there, but I never have known, in my life, of a potentially bigger and absolutely more unselfish and magnificent piece of work than these gentlemen are doing, Dr. Hardy, Dr. Overton, and Dr. Litterer. I don't know whether Dr. Litterer is still doing it, but when I left Nashville it was commonly understood that he was working all day running the bacteriological department for the state and working all night making BCG vaccine for these gentlemen to use. I suspect he is still doing it. He didn't say anything about it, but he is very modest as well as very unselfish.

If this BCG work goes over, I see no reason why we should not get something very great out of it. I think these three gentlemen will create a monument for themselves that will be an ornament to this whole community and particularly to this medical society.

Dr. Price made one point that I want to thank him for making. I did barely mention it. You have done a terrible thing when you tag somebody tuberculous and he is shipped off to a hospital somewhere and put out of the running for two or three years, and then you find out that he didn't have it after all. That is pretty easy. I can quote you a case right now of a little girl whom I followed ever since I have been in Knoxville, who stayed in an institution about four years. Her chest today sounds exactly like it did the first time I heard it. I missed it the first time, and the x-ray was diagnosed as tuberculosis the first time, but there never has been any sputum that was found positive, and I don't believe she ever did have tuberculosis at all. She was knocked out of four or five years of her career because she happened to have one of those lung respiratory things that looked like tuberculosis and sounded like tuberculosis, and there you are.

There is a very common tendency for us, when we hear a lot of rales in a chest, even if it is in a child, to say, "Well, it is tuberculosis, it is just too bad," and let it go at that. Nearly always, speaking by and large, (I don't like to deal in generalizations too much) when you hear a bunch of rales in a white child it means it is something other than tuberculosis. That doesn't hold in anything like the same proportion for negro children. I do not know why it is, but it is a fact from my experience and my study of cases.

I think Dr. Price mentioned that you could just as well treat them as tuberculosis, but say nothing about it, discount the possibility of tuberculous infection, and treat them and treat them and treat them, and try to arrive at a full diagnosis out of fairness to the patient before you definitely tag them as anything.

Again I want to express my thanks to these gentlemen who have so kindly discussed my paper. I appreciated their discussion; it helped me very, very much in getting my thought before you. I appreciate your attention in listening to us all. I want to say that I consider that I have been as highly honored as I ever was before in my life, if not more highly honored, by the opportunity to speak before this body. My only hope is that my feeble efforts were good enough that I justified the confidence you placed in me.

BACK INJURIES*

J. T. MOORE, M.D., Algood

BACK injuries require skill, both in the art and science of medicine. The art which has come from experience. That of securing a perfect history. A keen and careful observation; reading the look, the expression, the words and actions of the patient. The knowledge of a corect interpretation of human nature. A good inspection and a good understanding.

The science of medicine. The use of such modern means as we have at our command to make or confirm a diagnosis. The laboratory and the x-ray.

Given a case of back injury, it is necessary, first, to know the nature of the accident, where and how it happened; a correct story from patient and others who witnessed it; every detail as to the force which produced it; was it a blow, a lift or a fall, where and the direction of the force causing it?

If lifting, upon which side and suddenness of the weight?

If a fall, how far, and what part of body struck?

If a blow, where did it strike the patient and what was it?

An accurate description of the injury by the patient, every detail as to how it happened. A description of the pain; its location, its severity, when it began, whether it increased after accident or became less severe with time? We may have cases of back injury which do not give much trouble for a day or two after injury. The man might work a day or two, then get helpless from pain, especially where it has been caused by a heavy lift. Where two or more men are lifting an object and a companion gives way by slip, thereby throwing excessive weight on another while muscles are rigid.

Pain is the great indicator. It is the gong which rings through the nervous system when there is an injured organ. Where is it? Does it radiate? If so, does it extend up to chest and shoulder, or does it radiate to the leg and which side is it on? Is it a catching stitch-like pain or a dead ache? What position is patient in when there is greatest pain? Also position when most comfortable, and what movements *cause* pain?

We should make a careful examination of the back with all clothing removed. Observing any marks of ecchymoses or swelling. The position of patient, whether back is held straight or twisted, or any abnormal appearance.

Palpate all parts of back, noting any points of tenderness or muscle spasm. Here we are to determine whether the tenderness is real or the patient is faking.

A plan I have practiced is to palpate with both hands, one away from the supposed injured spot, the other on it. Then calling the attention of patient to a point away from injury at the same time making pressure with the other hand on the tender place, observing movements and passiveness of patient.

It is important to palpate all ligaments and joints of the back, especially of the lumbar and sacral region; the glutial nerve; the sacro-iliac joint and spinus processes and ligaments of the lumbar vertebra.

The patient is examined in standing, sitting and recumbent positions. Noting any abnormal movement of back, whether the back is flexible or stiff, and the joints which do not have proper motion. Does patient bend the back or move body altogether? Do we find the same symptom in sitting, standing and recumbent positions?

Flex both thighs with knees bent, then with knees straight. Flex one leg at a time, observing effects as to pain and motion. Determine whether one leg can be moved more without pain than the other.

There are many injuries which might be

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*Read before the Railway Surgical Section, Tennessee State Medical Association, Knoxville, April 14, 1931.

present—contusion of the back, dislocation of vertebra, fracture of any part of vertebra, transverse processes of lumbar vertebra, the lamina or compression fracture of the body. Fracture or dislocation of coccyx. Fracture of ilium, and sacro-iliac strain.

We have to eliminate conditions due to disease. Arthritis due to facal infection, tuberculosis and perhaps cancer. An examination per rectum is a good routine.

If an apparent back strain or injury of any kind does not improve markedly within two or three days, an x-ray examination should be made.

Treatment of back sprains require rest, heat and gentle massage. How best to obtain rest depends upon the severity and extent of the injury. The sprain is produced by the over-stretching of the introvertebral ligaments and back muscles.

There is tenderness over these ligaments and muscles. In mild strain rest in bed is sufficient; in more severe cases, perhaps, the application of adhesive strips extending from the seventh cervical vertebra to the coccyx is most satisfactory. This is best accomplished by placing patient in the prone position on table with pillows under the chest and feet to produce extreme lordosis. First, apply a three-inch wide adhesive strip over spine extending from seventh cervical to the coccyx, then two layers of strips, one diagonally across the other the whole length of the back.

In sacro-iliac strain the adhesive strips are placed directly across the lower back. Supporting belts or corsets are sometimes preferred, and some cases may require a plaster cast.

It is necessary in some of these cases to give anodynes to allay muscle spasm. Either an opiate, aspirin or a barbatal preparation.

In quite a large per cent of fractures of the trunk the treatment is rather simple. In all cases it is necessary for the patient to lie in bed from three to eight weeks. Complete immobilization not being necessary.

The application of heat and other means for relief of pain and a period of rest.

If we have a compression fracture of the body of the vertebra, the main object in view is to prevent kyphosis, a backward curvature due to the compressed condition of the body of the vertebra which is usually the last two or three dorsal or the first or second lumbar vertebra.

Osgood says that this fracture constitutes about 40 per cent of all fractures of the spine.

Normal lordosis must be maintained. This might be accomplished by placing patient on a firm bed in recumbent position with sufficient padding under the lumbar region of back to maintain lordosis (anterior curvature). This would not suffice in but few cases.

The placing of patient on a Bradford bed so that the pressure on back can be constantly maintained, but this is not applicable to all cases and it is necessary to apply a plaster cast while the spine is held in complete lordosis.

Fractures of transverse processes do not require more than rest in bed as a rule. The same can be said of most fractures of the pelvis, with, perhaps, adhesive dressing, and after a period of rest perhaps a proper fitting back brace on the order of a Taylor spine brace.

If there is injury to the cord in fracture of the spine, it is a case of major surgery.

My experience with back injuries and some other industrial cases of surgery has been the source of very great concern.

We are confronted with the proposition of being fair to the patient and also to those responsible for the injury. There is no class of cases more difficult in this respect than back injuries.

It is even more difficult to do exact justice to the railroads than to patients whom we believe to be exaggerating the symptoms and are antagonistic to our diagnosis and prognosis.

It is, perhaps, wise to give such patients the benefit of doubt. Agree to longer periods as to disability, if such will give satisfaction and final settlement without suit being brought by the patient. This, I believe, would be better for all concerned.

ROLL OF COUNTY SOCIETIES

County	President	Secretary	Meeting Date
Anderson	W. L. Carden, Andersonville	J. S. Hall, Clinton	1st Mon., 2 P.M.
Bedford	T. H. Woods, Bell Buckle	W. H. Avery, Shelbyville	3rd Thurs,. 2 P.M.. Dr. Ray's office.
Benton	See Carroll County		
Blount	E. H. Lowe, Maryville	J. A. McCulloch, Maryville	Thurs, 8 P.M., First Nat'l Bank Bldg.
Bradley	W. B. Campbell, Cleveland	S. J. Sullivan, Cleveland	1st and 3rd Thurs., 7 P.M., Court House
Campbell	L. M. Scott, Jellico	F. A. McClintock, Newcomb	4th Thurs.
Carroll		L. E. Trevathan, Bruceton	Carroll, Weakley, Benton, Henry, 2nd Tues., Hotel Lynn, McKenzie.
Carter	Paul S. Williams, Elizabethton	E. T. Pearson, Elizabethon	1st Tues., 7:30 P.M., First Nat'l Bk. Bldg.
Chester		L. E. Luna, Parsons	With Decatur and Henderson, 2nd Tues.
Claiborne	See Hancock County		
Clay	See Macon County		
Cocke	J. A. P. Shields, Hartford	J. E. Hampton, Newport	1st Tues.
Coffee	E. P. Vaughan, Manchester	C. E. Evans, Tullahoma	1st Thurs.
Crockett	See Dyer County		
Cumberland	E. W. Mitchell, Crossville	V. L. Lewis, Crossville	With Overton, White, 3rd Thurs.
Davidson	L. W. Edwards, Doctors' Building	N. S. Shofner, Doctors' Bldg.	Every Tues., 8 P.M., Doctors' Bldg.
Decatur			(See Chester County).
Dickson		W. J. Sugg, Dickson	
Dyer, Lake, C'ckett	E. S. Hopper, Alamo	E. H. Baird, Dyersburg	1st Wed., monthly.
Fayette		J. W. Morris, Somerville	Fayette-Hardeman, 1st Thurs.
Franklin		Jno. P. Grisard, Winchester	Last Fri., 7 P.M., Court House.
Gibson	G. C. Bryant, Milan	F. L. Roberts, Trenton	
Giles	F. C. Gaines, Pulaski	T. F. Booth, Pulaski	4th Thurs., Citizens Bank.
Greene	L. E. Coolidge, Greeneville	M. A. Blanton, Mosheim	2nd Tues., 6:30 P.M.
Hamilton	John B. Haskins, Med. Arts Bldg.	S. F. McIntosh, Volunteer Bldg	Each Thurs., 8 P.M., Manufacturers' Ass'n Bldg.
Hamblen		P. L. Henderson, Morristown	
Han'k, Cl'b'ne, U'n		J. H. Carr, Maynardsville	2nd Mon.
Hardeman	See Fayette County	J. Y. Alexander, Middleton	1st Tues., each quarter, Bolivar.
Hardin, Lawrence, Lewis, P'ry, W'yne		C. C. Stockard, Lawrenceburg	Last Tues.
Hawkins	W. C. Lyons. Surgoinsville	J. S. Lyons, Rogersville	
Haywood	G. G. Mulherin, Brownsville	J. L. Edwards, Brownsville	Last Tues., 7 P.M.
Henderson		J. F. Goff, Lexington	(See Chester County).
Henry	R. G. Fish, Paris	A. A. Oliver, Paris	(See Carroll County).
Hickman	J. S. Beasley, Centreville	W. K. Edwards, Centreville	
Humphreys		W. W. Slayden, Waverly	
Jackson	J. D. Quarles, Whitleyville	L. R. Anderson, Gainesboro	1st Fri., Court House (See Macon County).
Jefferson		B. M. Tittsworth, Jefferson City	
Johnson	See Sullivan County		
Knox	Tom Barry, Medical Bldg.	Jesse C. Hill, 4323 Lyons View Pk.	Every Tues., 8 P.M., Medical Bldg.
Lake	See Dyer County		
Lauderdale	Joe B. Lackey, Ripley	J. H. Nunn, Ripley	2nd Thurs.
Lawrence	See Hardin County		
Lewis	See Hardin County		
Lincoln	W. S. Joplin, Fayetteville	L. L. Sheddan, Fayetteville	
Loudon	J. G. Eblen, Lenoir City	Avery Leeper, Lenoir City	1st Thurs., Loudon; 3rd Thurs., Lenoir City, 7 P.M.
Macon	M. H. Allen, Lafayette	P. East, Lafayette	1st Wed. each quarter.
Madison	W. B. Eason, Jackson	B. C. Arnold, Jackson	1st and 3rd Tues., 7:30 P.M., Y.M.C.A.
Marshall		J. A. Hardison, Lewisburg	4th Thurs.
Maury	J. S. Covey, Culleoka	W. E. Black, Columbia	2nd Mon., 11 A.M., Elk Lodge Room.
Monroe	P. E. Parker, Sweetwater	H. M. Kelso, Madisonville	2nd Tues.
Montgomery	J. H. Ledbetter, Clarksville	R. B. Macon, Clarksville	3rd Thurs. night.
Morgan		J. F. Love, Lancing	
McMinn		C. O. Foree, Athens	2nd Thurs., 2 P.M. Dr. Nankivell's office.
McNairy		H. C. Sanders, Selmer	3rd Thurs.
Obion	C. B. A. Turner, Union City	F. B. Kimzey, Union City	
Overton	See Cumberland County	A. B. Qualls, Livingston	3rd Fri.
Perry	See Hardin		
Polk		F. O. Geisler, Isabella	
Roane		W. W. Hill, Harriman	1st and 3rd Tues., 1 P.M., Red Cross Rooms.
Robertson	S. J. Fentress, Goodlettsville	W. F. Fyke, Springfield	3rd Tues.
Rutherford	V. S. Campbell, Murfreesboro	J. A. Scott, Murfreesboro	
Scott		D. M. Woodward, Oneida	2nd Wed.
Sevier		R. J. Ingle, Sevierville	1st Mon., 7 P.M., 1st Nat'l Bank Bldg.
Shelby	H. B. Everett, Broad St.	A. F. Cooper, Bk. of Com. Bldg.	1st and 3rd Tues., Medical Arts Bldg.
Smith		Thayer S. Wilson, Gordonsville	1st Fri.
Sullivan		W. K. Vance, Jr.	1st Fri.
Sumner	L. M. Woodson, Gallatin		
Tipton		L. C. Newman, Covington	
Unicoi		J. R. Moody, Erwin	Every other Thurs.
Union	See Hancock County		
Warren		Jno. S. Harris, McMinnville	1st Wed., 1:30 P.M.
Washington		C. W. Friberg, Johnson City	2nd Thurs. at noon, Hotel John Sevier.
Wayne	See Hardin County		
Weakley	T. B. Wingo, Martin	J. E. Taylor, Dresden	3rd Wed., May, Aug., and Nov., at Martin; also see Carroll County.
White	A. A. Bradley, Cookeville, R.F.D. 5	S. E. Gaines, Sparta	2nd Thurs., Dr. Gaines' office. See Cumberland.
Williamson	J. W. Greer, Franklin, R. 2	K. S. Howlett, Franklin	2nd Tues.
Wilson	L. D. Cotten, Alexandria	J. R. Bone, Lebanon	Thurs. after 1st Wed., 2:00 P.M.

Kindly send notice of corrections to the State Secretary.

T. R. RAY, M.D.
President, Tennessee State Medical Association

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee
Office of Publication, 510 Doctors Bldg., Nashville, Tenn.

H. H. SHOULDERS, M.D., Editor and Secretary

AUGUST, 1931

EDITORIAL

Our New President

The presiding officer into whose hands fate ruled that the destinies of the Tennessee State Medical Association should fall is Dr. Thomas R. Ray, of Shelbyville. Dr. Ray was elevated to this, the most exalted station in the gift of the medical profession of his state, by reason of the untimely death of Dr. Robert Caldwell, the president, Dr. Ray having been chosen as vice-president from Middle Tennessee at the meeting of the Association which was held in Knoxville April 14-16 of this year.

Dr. Thomas Ryal Ray was born on his father's plantation in Bedford County, June 26, 1881. He lived on the farm till he was eighteen years old where he spent his time attending the country schools during their short fall and winter sessions, dividing his efforts between mastering Webster's old blue back speller and rabbit hunting, gaining marvelous proficiency in the latter pursuit we are told. During the summers he made a hand on the farm, engaging in all the numerous activities incident to farm life.

He was of an investigating turn of mind. Anything new, strange or unusual had great attraction for him. If it were a new machine, toy or camera, it is said, he made every effort to acquire it and once having mastered its intricacies, his Scotch lineage cropped out; he immediately disposed of it at a profit to some neighbor boy in whose mind he had carefully sown seeds of covetousness. He thus ministered at once to his scientific craving and developed his acquisitive talents side by side. This practice, learned in youth, has stood him well in hand in his maturer years. He has acquired by it that high degree of scientific information that has made him conspicuous in his profession and an independent competency in material things that has made him a power in his community.

He left the farm at the age of eighteen and, like so many young men with an ambition to enter the professions, he became a teacher in the public schools of his own and adjoining counties. He taught only a short while, however, till he entered upon his medical studies in the University of Chattanooga where he took his first years training. Later he entered the University of Louisville from which institution he received his degree in 1907.

He returned to Bedford County after his graduation and entered the practice of medicine, locating at Normandy, where he did a large practice for a number of years. In 1911 he moved to Shelbyville and began the practice of surgery which he has continued with a high degree of success to the present time.

In 1909 he married Miss Lena Holland. One child was born of that union, Jack, who is now completing his education in the University of the South at Sewanee, Tenn.

Dr. Ray has always been keenly interested in organized medicine. He has been honored with the presidency of his local society a number of times, also as president of the Tri-County and the Middle Tennessee Medical Associations, and served each with efficiency and distinction.

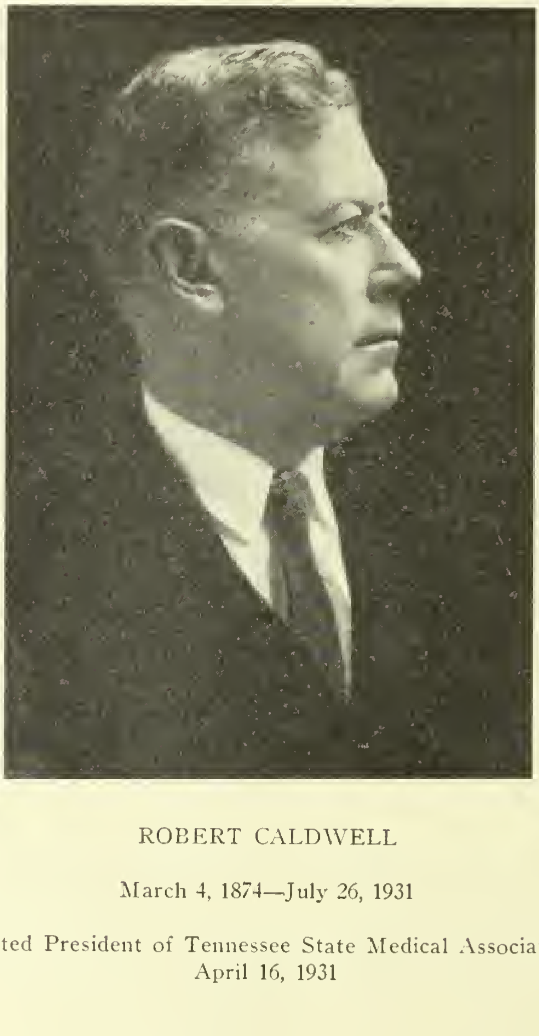
He has been no less interested in civic affairs. In 1927 he went to Ostend, Belgium, as a delegate to the Rotarian International Convention. After the adjournment of the convention, he joined the Inter-State Post-Graduate Assemblies of North America and visited the hospitals and clinics in Belgium, England, Scotland, Norway, Sweden, Denmark, Germany and France.

Dr. Ray is a man of splendid natural talent and fine culture. His high executive ability and genial nature fit him in a peculiar way for duties devolving upon the presidency of a great organization such as the Tennessee State Medical Association, and it is with serene confidence that we see him assume the great office.

J. P. Taylor, M.D.

A Tribute

to



ROBERT CALDWELL

March 4, 1874—July 26, 1931

Elected President of Tennessee State Medical Association
April 16, 1931

DR. ROBERT CALDWELL

In becoming a member of the medical profession, Dr. Caldwell brought into a high calling those qualities of mind and soul which have ever been the attributes of its leaders.

He brought into it a high sense of ethics. His relations with his fellows, with his patients, and with the public at large, conformed to the highest ethical ideals.

He brought into it qualities of mind which enabled him to give a logical analysis to scientific problems.

He brought into it a quality of industry that is indispensable. He diligently sought to know the truth and with equal diligence followed the light of truth as he saw it.

He brought into it a quality of tolerance too often lacking. He was tolerant of the views of others, though he remained steadfast to his own views.

He brought into it a wholesome companionship. He enjoyed contact with his fellows. They enjoyed contacts with him.

He brought into it a generous spirit. He was generous with his services. He was equally generous toward the weaknesses and faults of mankind.

He left to our profession a wholesome example and a fond memory.

H. H. Shoulders, M.D.

DEATHS

Dr. J. H. Pickard, 56, Hohenwald, died August 5th. Three years ago he injured his knee in a fall and ill health resulted.

Dr. Pickard graduated from the Vanderbilt Medical School in 1897.

Resolutions on the Death of Dr. G. W. Moody

On March 24, 1931, Shelbyville, as well as the whole of Bedford County, sustained an irreparable loss in the death of Dr. G. W. Moody, one of its most distinguished citizens and one of its most beloved physicians.

Dr. Moody was born in Huntsville, Alabama, November 5, 1847, and moved with his parents to Shelbyville, Tennessee, about 1855 where he spent the remainder of his life.

After receiving his medical degree from the University of Pennsylvania in March, 1869, he returned to his home at Shelbyville where he enjoyed an enviable practice until the time of his death.

No man was more loyal to his friends or more faithful in the discharge of his duties than was Dr. Moody. His conceptions and his practice of the ethics of his profession were characteristics by which he was known throughout the state. His loyalty and devotion to the comfort and welfare of his patients commanded the admiration and love of those whom he served.

Dr. Moody's life was an open book and easily read. In every phase of life, social or otherwise, his opinions and acts were found on the side of good morals and exact justice between men. This made him many friends. Because of his high ideals his friends often sought his counsel.

He was active in organized medicine, was a charter member of the Bedford County Medical Society and one of the oldest members of the Tennessee State Medical Society. On numerous occasions he served these organizations in official capacity.

The Bedford County Medical Society notes with sadness his vacant chair and will miss greatly his wise admonitions.

Therefore be it resolved:

That in the death of Dr. Moody the medical profession has lost a most valuable member;

That we pay earnest tribute to the noble life he lived and to the sterling qualities of heart and mind which he possessed;

That in the life of Dr. Moody we find an inspiration to greater service in the practice of our profession;

That we extend to his family and friends our heartfelt sympathy in their sorrow, and

That these resolutions be spread upon our minutes and a copy be sent to the family.

M. L. Connell,
T. J. Coble,
T. R. Ray.

NEWS NOTES AND COMMENTS

Dr. Herschel Ezell, of Nashville, read a paper on "Maxillary Sinusites" before the Fifth District Dental Society at the Manchester meeting on July 16th.

Dr. W. B. Dye, of Springfield, attended the Southern Pediatric Seminar, at Saluda, North Carolina.

Fifty members of the Chattanooga Medical Society and their wives enjoyed a dinner party at Cavern Castle on July 9th.

The tables were ornamented with white flowers and vine traceries. After dinner the guests enjoyed a trip through the cavern.

The Knoxville doctors seem to be all there whether the game is medicine, law or baseball. On July 15th, the doctors defeated the lawyers by a score of 14 to 3. To date the lawyers have not made a motion for a new trial.

Dr. Owen H. Wilson, of Nashville, was a member of the faculty of the eleventh session of the Southern Pediatric Seminar, which was held in Saluda, N. C., July 20-August 1.

Dr. M. B. Carr, of New Tazewell, attended a meeting of the Southern Railway Surgeons held in Washington, D. C.

Dr. Sam T. Parker, Jackson, is in New York City taking special post-graduate work in Eye, Ear, Nose and Throat diseases.

Dr. S. T. Brumley, of Greenville, has completely recovered from an attack of influenza.

Dr. R. A. Douglass, of Huntingdon, has been in Saluda, North Carolina, attending the annual Southern Pediatric Seminar.

Dr. James L. Fields, of Jackson, was seriously injured in an auto accident July 27.

The following have finished their internships at the Knoxville General Hospital and opened offices in the state:

Dr. George M. Kelly will be in the Coal Creek mining section.

Dr. B. R. Roach has begun practice in Morristown.

Dr. J. L. Montgomery has opened his office at Erwin.

In Johnson City, Dr. J. F. McFadden has succeeded Dr. George J. Sells as city physician.

Dr. W. R. Irish, of South Pittsburg, was painfully injured July 8th when the car in which he was riding collided with a freight train.

Dr. P. A. McGinnis, of Washburn, has been appointed assitant medical director at Pressmen's Home.

Dr. W. A. Howard, of Cookeville, had his appendix removed at St. Thomas Hospital, Nashville, in July.

Dr. Sam H. Hodge is constructing a new office and home on Church Avenue, Knoxville.

Dr. R. G. Waterhouse recently addressed the Technical Society of Knoxville.

Dr. R. L. Newkirk has completed an internship in the Louisville City Hospital and is opening an office in Tiptonville.

Our Advertisers

You probably noticed that the July Journal was a seventy-two page issue. This increase in size of the Journal was made possible by securing additional advertisements. You were given more scientific matter and the Journal was better as well as larger.

Whether we can continue to put out the larger Journal depends upon our readers. If you trade with the advertisers they will make a larger Journal possible. So read the ads. Each one is investigated and each one must come up to the high standard. You are protected from inferior goods and from unreliable firms. Make it worth while for the merchants of the state to carry ads in your Journal and they will supply the funds for a bigger and better Journal.

The Five-County Medical Society continues to do good work. We are especially proud of this society as it was our first attempt at organizing several counties into one society. Two or three of these counties had had organizations, but these organizations generally did nothing more than have an annual meeting at which dues were paid. Sometimes even this meeting was not held. In 1927 these five counties were organized into one society. Since that time the meetings have been held regularly every month. The attendance has been good. The programs have been of the highest type. In the newspaper account of the last meeting we are told "every doctor scheduled to appear on the program was present."

Now, if you happen to be a member of a county society which is more or less dead just think about resusitating it by combining it with two or three adjacent counties. The plan has worked so well elsewhere that we are inclined to believe you will find it a "specific" for what ails the society which functions poorly.

MEDICAL SOCIETIES

Anderson County—The Anderson and Campbell County Medical Societies held their second joint meeting of the summer at Clinton on July 23rd. Dr. Tom R. Barry, of Knoxville, was the guest speaker. His subject was "Diseases of the Prostate with Special Reference to Vesical Neck Obstruction with Demonstration of a New Method for Its Removal."

This meeting was well attended by members of both societies. The next meeting will be held in Jellico on August 27th.

Bedford County—Dr. T. J. Coble, Shelbyville, addressed the society on July 16th on "Appendicitis". A good attendance was present and a full discussion of the paper was enjoyed by all.

Chattanooga and Hamilton County—On August 13th, the program called for the following essayists and subjects:

"Carcinoma From the X-ray and Laboratory Standpoint", by Dr. S. S. Marchbanks.

"Peptic Ulcer", by Dr. J. D. L. McPheeters.

"Management of Bad Risk Surgical Patients", by Dr J. A. Reynolds.

Gibson County—Drs. C. L. Williamson, Thomas Moore and Russell A. Hennessey, of Memphis, addressed the meeting of the Gibson County Medical Society on July 27th. About twenty members were in attendance.

Hardin, Lawrence, Lewis, Perry and Wayne Counties—The Five-County Medical Society met in Lawrenceburg, June 30th. Every doctor scheduled to appear on the program was present. The program was as follows:

"Rabies", by Dr. O. H. Williams, Savannah. Discussion led by Dr. Noah Danley, St. Joseph.

"Illeo-Colitis", by Dr. J. M. Lee, Nashville. Discussion led by Dr. T. J. Stockard, Lawrenceburg.

"Chronic Cholecystitis", by Dr. W. C. Dixon, Nashville. Discussion led by Dr. J. H. Tilley, Lawrenceburg.

"Appendicitis", by Dr. Paul Faucett, Columbia. Discussion led by Dr. George Williamson, Columbia.

Haywood, Lauderdale, Tipton Counties—On July 21, our newest combined society met at Ripley. The meeting was addressed by Dr. Robert Mann and Dr. W. T. Pride, both of Memphis. The subjects discussed were "Peptic Ulcer", and "The Management of Occiput Posterior". Liberal discussions followed the masterly presentation of both subjects.

Knox County—July 14th, Dr. Theo Foster read a paper on "Pellagra With Presentation of Cases". Dr. R. E. Lee Smith opened the discussion.

Dr. R. G. Ashley reported an interesting case.

July 21st, Dr. A. H. Lancaster showed some fine moving pictures on "Cancer".

Dr. James Cottrell, of Philadelphia, addressed the society on "Management of Diabetes". A majority of the members of the society was present.

July 28th, Dr. Ray DePue read a paper on "Early Diagnosis of Syphilis". Dr. Ralph Monger opened the discussion.

August 4th, Dr. Beulah Kittrell's subject was "The Value of Different Therapeutic Agents in the Treatment of Rickets". Dr. W. R. Cross opened the discussion.

Lincoln County—The Lincoln County Medical Society had its monthly meeting at a mid-day banquet at the Pope Hotel July 16th. Dr. W. S. Joplin, of Petersburg, presided.

The Giles County Society was the guest of the occasion. The program for the meeting was furnished by the visitors. Dr. Joe B. Wright, of Lynnville, gave an instructive paper on "Children's Diseases", while Dr. E. M. Fuqua followed him with a paper on "Vitamines".

Twenty-three were present at the meeting.

Maury County—"Some Phases of Medical History" was Dr. W. E. Black's subject at the July meeting. About fifteen doctors were present and a good meeting is reported.

McMinn, Monroe, Roane, Loudon Counties—The third of the four joint medical meetings of McMinn, Monroe, Roane and Loudon Counties was held at the courthouse in Athens, July 30th.

The following papers were read:

"Modified Scanzoni Maneuver", by Dr. John Roberts, Kingston. Discussed by Drs. W. H. Harrison, Loudon, and S. M. Aiken, Etowah.

"The General Practitioner, the Backbone of Medicine", by Dr. J. J. Harrison, Loudon. Discussion led by Drs. Thomas L. Bowman, Harriman, and W. H. Arrants, Sweetwater.

Paper by Dr. H. C. Shearer, Madisonville. Discussed by Drs. W. J. Cameron, Sweetwater, and R. W Epperson, Athens.

"Syphilis From the Standpoint of the General Practitioner", by Dr. W. R. Arrants, Athens. Discussion led by Drs. G. E. Wilson, Rockwood, and Halbert Robinson, Loudon.

A Dutch lunch was served at the Robert E. Lee Hotel. After-dinner talks were made by Dr. J. M. Melear, D.D., of Athens, and Hon. Clem Jones, of Athens.

At the afternoon session Dr. A. G. Kern, of Knoxville, read a paper on "Head Injuries."

Robertson County—On July 21, this society met with Drs. M. B. Garner and S. J. Fentress at Goodlettsville. After a six o'clock dinner, the scientific session was called to order by the vice-president, Dr. R. D. Moore. Papers were read by Dr. O. N. Bryan, Nashville, on "Anemia", and Dr. N. S. Shofner on "Indications and Contraindications for Thyroidectomy". Both papers were well presented and discussed freely.

Those present were Drs. R. D. Moore, M. G. Garner, W. L. Gossett, J. S. Freeman, and W. F. Fyke.

Visitors from Nashville were: Drs. O. N. Bryan, C. S. McMurry, N. S. Shofner, and R. W. Grizzard, and Dr. Stanford Ayres, of Orlinda.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By Hugh Barr, M.D.
Medical Arts Bldg., Nashville

Anesthesia in Goitre Surgery—Experience With Avertin. Arthur S. McQuillan, M.D., New York, N. Y. New York State Journal of Medicine, June, 1931.

In reviewing his experience with avertin in 100 cases of exopthalmic goitre, the author outlines his technic as follows: The patient is given a simple enema early in the morning for three or four days preceding the day set for the operation, the patient being kept in ignorance of the day set for the operation. On the day of the operation the estimated amount of avertin is introduced into the enema and the patient turned on the left side. Narcosis takes place in from three to five minutes.

After the patient has gone to sleep she is rolled into the operating room where an inhalation anesthetic is administered, either nitrous oxide or ethylene. A preliminary dose of morphine is not necessary and is not indicated due to its depression of respiration. The reason for using avertin was to avoid the physical strain incident to inhalation anesthesia. No attempt was made to produce basal anesthesia and only a sufficient dose was given to produce light stage of unconsciousness. The amount of inhalation anesthesia was reduced to at least one-third, thereby diminishing post-operative nausea. However, the patient must be watched carefully as there is sagging of the jaw and a free airway must be maintained.

DERMATOLOGY

By E. E. Brown, M.D.
Doctors Building, Nashville

Modification of Therapy With Gold Compounds in Lupus Erythematosus, by Samuel Monash, M.D., and Eugene F. Traub, M.D., New York, N. Y. Archives of Dermatology and Syphilology, July, 1931.

On account of the toxicity and the variable results that have been achieved by the intravenous method of administration the authors set about to perfect a more reliable and less toxic method.

They injected the gold compound intradermally, subcutaneously or into the submucosa direct. They use a one per cent solution of gold and sodium thiosulphate together with twenty-five hundredths per cent of procaine hydrochloride. The dosage varied from ten to twenty-five mg. Only a slight swelling followed the injection. Their results thus far have been so gratifying that they published this preliminary report.

Ringworm of the Feet, by W. L. Gould, M.D., Journal American Medical Association, April, 1931.

In a public high school it was found that about fifty per cent of the students were excluded from gymnastics because of tineal infection of the feet. Foot-baths containing a fifteen per cent solution of sodium thiosulphate were installed between the locker-room and the shower-room. Each pupil on leaving the shower immersed the feet in this bath. In so doing, the solution was spattered over the floor of the locker-room so that the feet of the pupils were constantly in contact with the solution. A thiosulphate solution as low as three per cent was found efficient, so that by using a fifteen per cent solution sufficient allowance is made for the dripping of plain water into the bath. The bath was changed frequently. In four weeks, with this procedure, the infection had practically disappeared from school. In some cases, good results were obtained from the use of a twenty per cent powder of sodium thiosulphate in boric acid. This is dusted on the feet and in the footwear daily.

INTERNAL MEDICINE

By R. B. Wood, M.D.
C. J. Carmichael, M.D.
Knoxville

Some Observations As to Results of Phrenic-Exeresis in Pulmonary Tuberculosis. Lieut.-Colonel A. T. Cooper, M.C., U. S. Army.

1. Phrenic-exeresis is of value in many cases of pulmonary tuberculosis where the lesions are mainly unilateral.

2. Beneficial results have been noted even where there is no corresponding rise in the diaphragm.

3. A good rise of the diaphragm may ensue even with the presence of adhesions.

4. Phrenic-exeresis is particularly indicated in unilateral cavitation involving the lower or central part of one lung.

5. Phrenic-exeresis is indicated where attempt at inducing pneumothorax is unsuccessful.

6. Phrenic-exeresis is useful as a preliminary step where complete thoraclalasty is contemplated, as sufficient collapse may be obtained with resection of fewer ribs and less deformity; also it is useful as a preliminary procedure in many cases to test out the contralateral lung.

7. This operation frequently ameliorates much of the distressing and wracking cough present in far advanced cases and enables the sputum to be raised with less effort.

Physostigmine Salicylate in the Treatment of Exophthalmic Goiter. Israel Brom. Archives on Internal Medicine, July, 1931.

Observing 200 patients with exophthalmic for a period of ten weeks, the author noted improvement in 49 per cent and transient benefit to another 24 per cent. The most satisfactory results noted were in the reduction of heart rate and force, and in the metabolic rate, as well as subjective manifestations. Best results were obtained in those under 14 and over 50 years.

Many improvements were noted in stubborn post operative exophthalmos.

Hemophilia and the Female Sex Harmone. Carroll Lafleur Birch, M.D., Chicago. Journal A. M. A., July 25, 1931.

Believing that the female of the species must have hemophilia before being capable of transmitting the disease and that some substance in the female, probably an ovarian substance, holds the disease in obeyance or presents manifestations, the author treated two cases by ovarian therapy and transplants with excellent results.

Knowing some female sex harmone may be isolated from the urine of normal males which injected into castrated female rats is capable of producing estrus, an attempt was made to isolate such from the urine of a few hemophilias, but failure resulted which controls showed positive results.

Further study is being made on a series of twenty-two hemophiliac patients.

OPTHALMOLOGY

By Robert J. Warner, M.D.
Doctors Building, Nashville

The Bacterial Flora of the Normal Conjunctiva With Comparative Nasal Culture Study. R. A. Keilty. American Journal of Ophthalmology, October, 1930.

One hundred persons with normal eyes were used in a study. Cultures from the eyes and the nose were obtained by swab, and were streaked across blood-agar plates which were incubated for forty-eight hours at 37.5 C. Several tables are presented to show the results obtained in the cultures from the nose, the author concludes that the tear ducts act as pathways of infection either directly or by lymphatic drainage. The severity of the infection in the eye and that in the nose also seemed to correspond.

The author concluded that the majority (57 per cent) of normal conjunctival sacs carry one or more organisms on one or both sides, without clinical evidence of inflammatory reaction of the conjunctiva, while a minority (43 per cent) are sterile, as measured by swab plantings incubated for forty-eight hours on blood-agar plates.

The organisms that were isolated in this series belonged to the pathologic group and were types that are generally considered low in virulence but of the suppurating variety. The large white colony of hemolytic staphylococci characteristic of the nasal flora markedly predominated. From these observations, all conjunctival sacs must be considered as harbors of micro-organisms unless proved otherwise. This fact has a decided bearing on possible post-operative infection in otherwise clean incisions into the eyeball, especially in cases of cataract.

ORTHOPEDIC SURGERY

By Robert F. Patterson, M.D.

Medical Arts Building, Knoxville

A New Operation for Arthrodesis of the Shoulder. Bruce Gill. Journal Bone & Joint Surgery.

A horse-shoe shaped incision is made over the shoulder about the acromion. This is joined by a vertical incision downward over the greater tuberosity. A deep incision then severs all the tissues from the acromion and the capsule and remains of the deltoid are excised down to, within an inch of the attachment to the humerus.

The periosteum is separated from the acromion above and below and pushed upward. A portion of the head is removed and the rest divided also the glenoid fossa, then with a chisel the head is split longitudinally, leaving an outer and anterior portion separated from the main head by a wedge-shaped space produced by the removal of a wedge from the inner portion with the base upward.

Upon abducting the arm forty-five degrees with the arm slightly anterior the divided acromion drops into the wedge-shaped area. Mattress sutures carried through the remains of the capsule at the head and the periosteum above secure the bones in position. When tied a cast is applied to arm and body in this position.

The advantage in the forty-five degree abduction is that the patient is not forced to lean toward the anchylosed shoulder in order to bring the arm to his side. The cast remains on about three months.

OTOLOGY, LARYNGOLOGY, RHINOLOGY

By W. G. Kennon, M.D.

Doctors' Building, Nashville

Otolaryngological Treatment of Chronic Ulcerative Colitis. C. H. Darrow, M.D., Denver, Colorado. Annals of Otology, Rhinology and Laryngology, June, 1931, Vol. xl, No. 2.

That colonic disease should directly interest the Otolaryngologist may seem unusual.

Eradication of distant foci of infection, as we have all experienced, is frequently the major factor in curing many pathological conditions. This disease of the colon has been known for many generations, but referred to as idiopathic chronic ulcerative colitis, since the etiology was unknown and the pathology and symptoms were confused with several other chronic diseases of this portion of the digestive tract.

As a result of the incomplete understanding of the disease, treatment was uniformly unsatisfactory, until J. A. Bargen and E. C. Rosenow, in 1924, isolated the causative organism.

It has been proven that ulcerative colitis is a definite clinical entity, caused by a specific organism known as the bacillus of Bargen. This organism is thought to belong to the streptococcus group, is lancet shaped, gram positive and closely resembles the pneumococcus. It grows best in a dextrose brain broth. The infection by this organism first involves the rectal mucosa. As the disease progresses the sigmoid, descending, transverse and ascending colon, and in a few cases the lower portion of the small intestine are affected. The mucous membrane becomes congested and edematous, to this condition there are soon added innumerable miliary abscesses which can easily be demonstrated proctoscopically. The early breaking down of these abscesses results in innumerable minute ulcers, the coalescence of which form large ulcerated areas.

Eventually, there is involvement of the submucosa and muscularis resulting in narrowing by spasm and contraction. When healing occurs characteristic pitting of the mucosa can be recognized, indicating the previous presence of a large number of small abscesses. No other disease of the rectum, sigmoid and colon produces such a characteristic pathological picture.

At the inception of the disease when only the rectum is involved the patient complains only of frequent rectal discharges of mucus, blood and pus. At this stage constipation may occur. The symptoms become more pronounced as the disease progresses upward into the colon. Loss of weight, pallor, abdominal distress with cramping, tenesmus and increasing frequency of the discharges of blood and pus mixed with fecal matter.

There is sometimes an acute fulminating type of the disease, but the condition is usually chronic, covering a period of several years, during which time the patient is practically an invalid. Radiograph after using opaque enemas, show the absence of haustrations, foreshortening of the bowel, with narrowed lumen due to spasm and contraction. Recovery of the causative organism along with the characteristic findings help to make certain the diagnosis.

The work of Dr. Bargen resulted not only in the isolation of the causative organism, but revealed that chronic infection of the upper respiratory tract is the most important factor in the production of the disease.

About the time of the announcement of Dr. Bargen's investigations and discoveries the author had occasion to examine the nose and throat of a woman who had been suffering with diarrhea and the attending symptoms for about fifteen years. She was referred to him by a proctologist, who had obtained cultures from the sigmoid showing the bacillus of Bargen. He requested that he study the bacterial flora of her mouth, pharynx and nasal cavities. The bacillus of Bargen was recovered in pure culture from the tonsillar crypts.

Tonsillectomy resulted in immediate cure of her diarrhea without further treatment. This patient was followed by others, most of whom have proven to have the focus in their tonsils, but not invariably. Infection about the teeth has been found in a few patients. In no case has infection of the accessory sinuses or nasal cavities proved to be the focus. It is interesting to note that when the organism has been recovered from the teeth or tonsils it has been found in pure culture.

Vaccine made from the diplobacillus and administered following the removal of the focus or foci has proven helpful in cases which cleared up slowly. Usually, however, after eradicating all distant foci the diarrhea soon disappears. This has been uniformly true where the diplobacillus has been recovered from the colon as well as the upper respiratory tract.

Attempts to produce lesions in the colon of experimental animals at first were not successful. Work was done with rabbits and young dogs. A single intravenous injection of 8-10 c.c. of pure culture of the diplobacillus failed to produce any localized pathology.

Daily injections for a week caused lesions to form in the colon in four of eight dogs. They lost weight rapidly and developed a mild diarrhea in the course of four or five days. The diarrhea grew gradually worse with the appearance of blood and pus. Two of the dogs died, one was autopsied at the height of its infection, while the fourth recovered after cessation of the intravenous injection. The selective action of the infection on the colon of rabbits was less frequently evidenced.

Appended are case histories of four patients in which the diplobacillus was recovered from both the colon and either the tonsils or teeth. Eradication of the foci of infection was followed by complete cure in three cases and marked improvement in the fourth.

The autopsy findings in the experimental animals are unfortunately omitted, but one judges from the context of the paper that the lesions of chronic ulcerative colitis were found to be present.

PEDIATRICS

By John M. Lee, M.D.
Doctors Building, Nashville

Treatment of the Acute Cerebral Complication of Nephritis. C. Anderson Aldrich, M.D. Amer. Jour. Dis. Children, June, 1931.

During the course of nephritis certain symptoms developed as a result of the effect of the disease on the brain tissue. These symptoms include vomiting, headache, dizziness, visual disturbances, convulsions, coma, and arterial hypertension. Case reports of 28 patients are given in detail, the treatment of these cases being based on the assumption that the patients had a toxic condition and an increased intracranial pressure, the intoxication being considered the cause of the original nephritis, and the increased intracranial pressure being due to cerebral edema.

These patients were treated as follows: (1) If the patient is conscious and able to drink, liquids are forced and all other nourishment is considered of little importance, although a diet low in protein is usually prescribed. Frequent determinations of the blood pressure are made, and if the pressure mounts, magnesium sulphate, 50 per cent solution, is given in doses of from one to several ounces daily by mouth, the amount varying with the age of the patient and the severity of the symptoms. In edematous patients this causes little or no catharsis; therefore, the therapeutic results cannot be attributed to the loss of water through the bowels. This treatment is continued until the blood pressure is normal and the symptoms do not recur.

(2) If convulsions or coma are present, spinal puncture is performed immediately. If the symptoms are not markedly relieved, 2 per cent magnesium sulphate solution is injected intravenously. The blood pressure is frequently taken on one arm, while the solution is injected slowly and continuously into the other, until the systolic pressure is but slightly above normal. At this time the patients have always been so improved that fluids could be retained by mouth. From 100 to 200 c.c. of the solution has usually been sufficient for this purpose. Treatment like that given for conscious patients is then instituted.

The author explains the behavior of the patients under this treatment on the following hypothesis. "Owing to an intoxication that is probably the cause of the nephritis, (infection may produce the intoxication), the tissues, including those of the brain, take on water and become edematous. This water is considered to be held in chemical combination with the tissue cells. The resulting edema of the brain causes increased intracranial pressure, a compensatory rise in blood pressure and clinical symptoms. The general increased affinity of the tissue cells for water results in oliguria and usually in subcutaneous edema. When large amounts of fluid are given, there is a tendency to dilute the toxins and to provide free water for their elimination through the kidneys. Thus, paradoxically, the administration of water may reduce edema. In this process, when the cerebral edema is decreased, the intracranial pressure and the systemic blood pressure fall, giving relief from the cerebral symptoms. Following this, as more water becomes available for excretion, diuresis takes place.

When the onset of coma makes the adequate administration of fluid impossible, intravenous injections of strongly dehydrating salts, such as magnesium sulphate, shrink the cerebral tissues, leading to prompt relief from the symptoms, and enabling one to proceed with the administration of fluids by mouth.

The administration of magnesium sulphate by mouth in large doses seemed to hasten recovery, and did not cause loose stools in edematous patients until the symptoms had disappeared. It is believed that when given orally the salt acts in the same manner as when given venously."

SURGERY — GENERAL AND ABDOMINAL

By John L. Dies, M.D.

1213 Exchange Building, Memphis

Tetanus Antitoxin: A Study of Local and General Reactions in 1,884 Cases. Thomas, Charles. The Texas State Journal of Medicine, 27:26, 27, May, 1931.

In the Department of Traumatic Surgery of the Houston Clinic, during the year of 1927, so great a number of severe reactions occurred, due to prophylactic doses of tetanus antitoxin, that it was decided to find out which of several brands used was causing the greater number of local and general reactions. The antitoxin was designated alphabetically rather than by name. The reactions have been classified as local and general, the former characterized by soreness, redness and occasionally urticarial areas at the site of infection, the latter by general urticarial manifestations and other associated symptoms such as fever, joint pains, enlarged lympth nodes, and so forth.

On account of the results made evident in this study, there was used in another series of approximately the same number of cases, five minims of epinephrine with each dose of antitoxin. The antitoxin was usually given in the triceps muscle, for there has been less complaint when given in this location than when given subcutaneously. Also except when a reaction occurred, the patient complained of very little soreness of the arm and continued at his regular duties.

It is clear that the results obtained by the addition of the epinephrine to the antitoxin are far better than when not so combined. We now have no hesitancy in urging the patients to take tetanus antitoxin for an apparent trivial injury, whereas, before we began to use the antitoxin-epinephrine combination, we debated at length in many cases before advising antitoxin. We do not believe that the prophylactic use of tetanus antitoxin is an entirely harmless procedure, but we do feel that the addition of epinephrine to the antitoxin has lessened the danger and has certainly saved the patients a great deal of discomfort. It has been our happy experience to not have a single case of tetanus develop in over 3,000 patients receiving prophylactic doses of antitoxin.

It is interesting to note the results in the cases in which the patients had more than one dose of antitetanic serum.

Four of the patients who had local reactions with the antitoxin-epinephrine combination had had previous doses of antitoxin. On the other hand, the patient who had the general reaction had not had antitoxin previously.

Eight patients who had antitoxin previously had general reactions when given antitoxin without epinephrine. Eighty-nine patients who had had previous doses of antitoxin suffered no reaction when given a second dose combined with epinephrine. It will be noted that not a single general reaction developed in the patients who had previously had the antitoxin and were given the antitetanic serum with epinephrine.

The percentage of reactions was so high with antitoxin A in the first series, that it was discontinued after being used in 15 cases in the second series.

Toward the end of the first series, antitoxin E, a supraconcentrated antitoxin, in a smaller syringe package, was put on the market, but an opportunity to use it was given in only 48 cases before completing this series. In the second series this antitoxin was specified in the purchases, because so few local reactions had been observed following its use, and it produced little soreness at the point of injection. There has not been a general reaction from this particular brand.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,

and F. K. Garvey, M.D.

Medical Building, Knoxville

Plastic Surgery of the Ureter. J. K. Ormond. Journal of Urology, 1931, xxv, 117. Abstracted by Jacob S. Grove, M.D.

Most plastic operations on the ureter fall into two classes: (1) those performed for the purpose of diverting the urine, which are usually done on the lower ureter, and (2) those performed to relieve obstruction, which are usually done on the upper ureter.

Plastic operations on the lower ureter are done to divert the urine from the bladder, re-establish entrance of the urine into the bladder by a new route or by repair of the normal route, relieve obstruction, or correct certain congenital abnormalities.

The operations classed as plastics on the lower ureter are: (1) implantation into the bowel, (2) re-implantation into the bladder, (3) inguinal ureterostomy, (4) excision or incision of stricture and repair of the ureter, (5) repair of a ureter severed accidentally, and (6) Hinman's plastic shortening of the tortuous and redundant ureter.

Ormond discusses uretero-enterostomy and states that there is a difference of opinion as to the indications for this operation. He believes it is indicated in exstrophy of the bladder, cases of carcinoma of the bladder in which the bladder is excised without being opened, inoperable carcinoma of the bladder (in which the transplantation would be done merely for relief of the symptoms and may be followed by large doses of radium), advanced interstitial cystitis, and intractable and incurable vesical tuberculosis.

With regard to the operation of re-implantation of the ureter into the bladder, some surgeons who have had considerable experience state that in nearly all cases there is stricture formation with consequent infection and destruction of the kidney, whereas others have not noted these sequelae. In this operation it is most important to allow the ureter to project into the bladder for some distance. No attempt should be made to anastomose the opening of the ureter to the bladder mucosa.

Repair of the ureter may be rendered necessary by accidental injury in the course of a pelvic or other operation, or by the excision or incision of a stricture.

The operation of choice for the relief of the symptoms of incurable and intractable vesical tuberculosis in elderly or weak patients is inguinal ureterostomy. In the cases of younger and stronger patients a bowel implantation may be preferred.

Plastic surgery of the upper ureter is done usually for the relief of obstruction. The chief conditions in which it is indicated are stricture of the upper ureter, kinking of the upper ureter (which may or may not be due to aberrant vessels), stricture of the ureteropelvic junction, abnormal implantation of the ureter into the pelvis, and kinking of the ureteropelvic junction.

Except in cases of stricture close to the ureteropelvic junction, the treatment of stricture of the upper ureter is essentially the same as that for stricture of the lower ureter. However, strictures in the upper part of the ureter are more difficult to dilate.

True kinks may be caused by aberrant vessels or by nephroptosis. As section of aberrant vessels undoubtedly causes degeneration of a portion of the kidney, some surgeons section the ureter and reimplant it into the pelvis on the other side of the vessel.

With regard to the advisability of attempting a plastic operation at the ureteropelvic junction, Ormond comes to the following conclusions:

1. Plastic operations on the ureteropelvic junction are indicated in selected cases.
2. Nephropexy should be done in most cases.
3. Catheter splinting of the ureter according to Peck's method should be employed in most cases.
4. A pyelographic examination of the supposedly uninvolved kidney should be a part of the diagnostic procedure in every case of hydronephrosis.
5. When the kidney is markedly damaged, nephrectomy is probably more advisable than a plastic operation unless the other kidney is damaged or shows an early stage of the same condition.
6. In the cases of elderly patients with normal function of the other kidney nephrectomy is to be preferred to a plastic operation.
7. In cases of aberrant vessels, section should be done if the vessels are small, and transplantation of the ureter to the other side of the vessels if the vessels are large.

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SURGERY OF PULMONARY TUBERCULOSIS*

ROBERT CALDWELL,** M.D., Nashville

THE employment of surgery in the the treatment of tuberculosis of the lung, while suggested by Carson, more than one hundred years ago, was not accepted by the profession to any considerable extent until the last ten years. In 1906, Brauer first definitely recommended that surgical collapse should be applied in the treatment of certain cases of pulmonary tuberculosis.

The intention of all forms of surgical treatment of pulmonary tuberculosis is compressing or collapsing the diseased lung, partially or completely, either temporarily or permanently. What are some of the anatomical, physiological and pathological problems to be taken into consideration? If we are familiar with these, then we can more intelligently select the cases, which at the present time is the most important consideration connected with the whole subject.

Probably the first factor to require our attention is the effect upon the heart and circulation, both pulmonary and systemic. Yates has emphasized the interdependence of respiration and pulmonary circulation, stating that "the pulmonary circulation is the most important factor influencing pulmonary inflation, and fluctuation in pulmonary inflation is accompanied by variations in the resistance to blood flow in the pulmonary circulation."

It has been shown conclusively by several investigators that less blood passes through the compressed lung, and also that an increased amount goes to the non-compressed lung, and according to Yates, augments its inflation. Associated with these changes in the pulmonary circulation there is increased back pressure upon the right heart. If these findings are correct, then the condition of the right heart is an all important consideration. If the general state of the myocardium is markedly impaired, then it would manifestly be unwise to increase its burden. Death has occurred from this cause.

The effect of pulmonary compression of the systemic circulation is slight and transient, unless the myocardial reserve is already very low. When a lung is compressed, there is of course a marked reduction of respiratory surface. Leblanc has observed that owing to the diminished amount of blood to the compressed lung, and an increased amount to the functioning lung, there is very slight deficiency in the oxygen saturation of the blood. Means and Balbona think that one lung can function quite satisfactorily until the demand is increased beyond the normal ventilation three times.

It should be remembered that dyspnea is of toxic origin sometimes, and the patient's difficult breathing may be much improved, after compression has benefitted the toxic state. Coley has referred to this as "pneumothorax-paradox". A lymphstasis and dilatation of the lymph vessels is also noted in the compressed lung. After the lung has been compressed for some time, a peribronchitis occurs in the breathing areas of the lung, which is non-specific in character.

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16.

**Deceased.

There are three methods by which the lung may be compressed, pneumothorax, phrenicectomy, and extra-pleural thoracoplasty. These may be employed either singly or together, depending upon whether partial or complete, temporary or permanent compression is deemed necessary.

Before we proceed further with this discussion, let us understand definitely that surgery in pulmonary tuberculosis is to be used as an adjunct to the so-called medical treatment of diet, rest, fresh air and sunshine. It is at least a debatable question, as to whether any of the methods of compression should be employed, until after intelligent effort has been made to cure the patient by the recognized treatment of tuberculosis. Another fundamental axiom might be stressed just here, that is, compression should never be employed while there is active tuberculosis in the opposite lung. To this there should be no exception.

Compression by pneumothorax should be used in cases where a re-expansion of the lung is believed desirable, and of course it is always desirable, provided the tubercular process will remain quiescent, and there is sufficient amount of lung tissue remaining to be of service to the patient. It is estimated by men who have had the largest experience that only ten to twenty per cent of all cases are fit subjects for pneumothorax, and that in twenty to thirty per cent of these it cannot be employed on account of various complications. Marked adhesions between the viceral and parietal pleuræ is the complication that most frequently prevents the successful use of pneumothorax.

If intending to employ pneumothorax, we must realize that it is not entirely without danger, not so much as to life, as to the possibility of complications, that might add to the gravity of the case, and thereby not benefit the patient, but do actual harm. The most frequent complication is the accumulation of fluid in the pleural cavity. This may become purulent. Lilienthal states that fifty or sixty per cent of the cases, in which pneumothorax is employed, develop more or less troublesome effusion, and that ten or twelve per cent of these effusions will be converted into empyemas. While we feel that this is entirely too high, both as to effusions and empyema, yet we must take these complications into account when advising pneumothorax.

The utmost care should be employed to prevent the carrying of infection in from the outside. And also not to contaminate the pleural cavity by puncturing or tearing the lung with the needle. It is usually over the diseased portion of the lung that the adhesions occur, hence too great pressure could very easily tear into the infected part of the lung and thereby contaminate the pleural cavity. Should the mediastinum not be more or less fixed any compressive therapy might push the lung over into the opposite side of the chest with serious consequences. Probably the most serious thing that may happen is the possibility of infecting the opposite lung or lighting up an old arrested process. With the above mentioned dangers in mind we may come to a consideration of just the type of case we should employ one or more of the compressive methods.

Again let us repeat that the disease must be unilateral; if not unilateral the involvement of the good side must be very slight and inactive. The case should have had intelligent treatment, and this found to be inadequate to control the progress of the disease. Phrenicectomy only produces partial compression, hence, it is most frequently used in conjunction with pneumothorax and extra-pleural thoracoplasty. In a few cases it may be phrenicectomy of itself may bring about improvement sufficient for it not to be necessary to employ the more severe measures.

While I have not had the privilege of observation of cases, am inclined to believe that if we would do a phrenicectomy on cases early, that is as soon as the patient is known to have a rather active and extensive involvement of one lung, the arrest of the process would be accomplished in a larger per cent of the cases. Again the possibility of the relighting up the disease after it has seemed to be arrested, would, I think, be reduced very materially, because the breathing activity will be permanently decreased and even if the patient does overstep the instructions of his physician, he will not be so likely to do himself harm.

Pneumothorax should be employed in the cases that have extensive involvement of one lung that has ceased to improve with the proper medical care. Pneumothorax is probably the most efficient means at our command to control hemorrhage.

Phrenicectomy paralyzes the half of the diaphragm on the side of its removal; this allows the diaphragm to rise in the chest by the intra-abdominal pressure acting on the paralyzed muscle. It is estimated that phrenicectomy will reduce the space in the chest from fifteen to thirty per cent. Patients that have had a phrenicectomy rarely realize that anything has been done to them. I have never seen one with any dyspnea, but even should dyspnea supervene, it will be transient. Since phrenic exairesis is attended with the slightest, if any danger at all, I am inclined to suggest that it should be used to a greater extent than it is at the present time.

All cases upon whom a thoracoplasty is contemplated should first have a phrenicectomy, because it is a test as to whether the patient will be able to stand the thoracoplasty, and also determines whether any involvement of the opposite lung might be inclined to take on activity. It also increases the amount of compression that may be obtained by thoracoplasty. When the patient comes under observation for the first time with severe symptoms, and the involvement of one lung is so extensive that it is obvious that no measure short of compression would be able to prevent a fatal outcome, or when there is extensive cavitation, then we should proceed to do a thoracoplasty without waiting to see the result of medical treatment. Should you await medical treatment, you might ask how long a trial should be given. This must depend largely upon the judgment of the physician. However, as some kind of rule, we might suggest something in the neighborhood of three months as an average, but if the patient at the end of a month or six weeks shows a progressive downward course, I feel that it would be unwise to wait longer.

Extra-pleural thoracoplasty is the permanent collapsing of one side of the chest. This is to be employed in cases where it is desirable that the lung should never expand. It is rather a formidable procedure and should not be undertaken lightly, but on the other hand it has been proven to be of great benefit in many cases that otherwise seemed hopeless. Probably more care should be exercised in the selection of cases to be subjected to thoracoplasty than to any of the other procedures, in as much as it carries a greater primary mortality and the compression is permanent. You might think the deformity would be very marked and objectionable, but such is not the case. There is not enough deformity to be noticeable through the clothing.

Lilienthal in discussing the selection of cases for thoracoplasty says "the mere presence of advanced unilateral disease is not of itself enough to justify thoracoplasty, and in any event the keystone of our operative indications is that it shall never be desirable for the affected lung to reexpand." In the literature there is considerable about age being an important factor, but I am inclined to the opinion that this should be regarded as it is in all other severe surgical procedures, with the exception that it seems that a patient past fifty should not be subjected to thoracoplasty, but remembering that the matter of years does not constitute age. If we require that there should be no involvement whatever of the opposite lung, the number of cases to which it should be applicable would indeed be small, and we would deprive certain cases with an arrested process in the good lung of an opportunity to be benefitted. Also a case that is not suitable for thoracoplasty at the present may in the future become so. In the limited time at our disposal it is manifestly impossible to enter into a detailed discussion of all indications and contra-indications for employment of surgery in the treatment of pulmonary tuberculosis. All one could hope to do would be to mention some of the fundamental principles upon which it is based. We have only mentioned a few of the indications, hoping that the discussion will well develop this phase of the subject.

DISCUSSION

DR. L. T. STEM (Chattanooga): Mr. President and Gentlemen: I think that Dr. Caldwell's paper has been one of the most timely papers read at this meeting. I don't remember but one other paper being read before this body with reference to surgery of pulmonary tuberculosis. It is a subject today that is of widespread interest to the whole world.

Two or three years ago Sauerbruch said that the trouble with American physicians with regard to pulmonary tuberculosis was that they waited too late to operate on their cases. If I recall, the Europeans usually accuse the American surgeons or American physicians of being too radical. Today you can get very few of the Germans to remove tonsils, and we are accused of removing every one we see.

In looking over the reports of the number of cases operated on with regard to the number of cases of pulmonary tuberculosis, I find that the variance is in the lower limit of cases reported. Three per cent of one individual's total number of cases were cases that required surgical operations. The higher limit was ten per cent; that is, one in ten of his cases were cases that required surgical operation.

Dr. Caldwell's paper has covered in a clear sense most of the contra-indications and the indications, but I feel that probably a few of the indications should be mentioned.

First, of course, the ideal case is the unilateral case, that is the patient that has ulcerative tuberculosis on one side, with probable cavitation, with no tuberculosis on the other side, or, if at all, inactive. Those cases that are progressive, with both lungs involved, of course, should not be operated on. Those cases having repeated hemorrhages can often be controlled by rest and proper care, but occasionally you will find a case in which an operation is life-saving, especially a pneumothorax. Of course, phrenicectomy is indicated along that line, especially if you have adhesions and are unable to do a pneumothorax.

Those cases that have an empyema with a mixed infection repeatedly are cases that are indicated for surgery.

The contra-indications that we think of especially are, first, early cases. You certainly wouldn't operate on a case just beginning until you have had a chance for conservative treatment. You certainly wouldn't operate on a case that has involvement of all lobes of both sides, especially if you have no hope of any recovery. It would soon bring surgery into disrepute.

Myocardial involvement with failing heart muscle. Any case that has a pulse rate of over 100 and a blood pressure of under 100 consistently would be probably a case that you would hesitate to operate on.

Condition of blood, as in a case showing a decrease in the red blood cells or the erythrocytes, with a lowering of the hemoglobin, with probably an increase in the lymphocytes, and with a continued absence of the eosinophils, you would be careful about operating.

Probably the best ages are the ages spoken of in the literature, between fifteen and forty-five. The most ideal are between twenty and thirty-five. As the Doctor told you, years do not indicate age. Sauerbruch reports one man sixty-seven, and probably one case as young as thirteen.

If you had marked involvement of the intestines, probably a tuberculous peritonitis, you would hesitate to do a thoracoplasty on that case.

They all speak a great deal with regard to the question of a rigid chest. They hesitate somewhat to operate on those cases. The Doctor said that operation should be done purely on the unilateral case, that is do it on one side. But you will find that the French, that many of the Germans, operate on both sides. They have a partial pneumothorax on both sides; occasionally they do resection of a nerve on both sides. They report that some of those cases do wonderfully well.

As Larson Brown advises, always operate on one side first and watch your results before you operate on the other side. If the lesions on the other side light up, if they become active and the condition becomes worse, by all means leave the other side alone.

DR. W. A. BRYAN (Nashville): Mr. Chairman, in spite of all that we have discovered and all that we know about treatment, it is probably a fact that rest stands out as the most important single item in the treatment of diseases in general. I think we can't get that too deeply impressed on our minds.

In pulmonary tuberculosis, if we just open the lung and look at it, we have a cavity. That cavity is raw on the inside, and if you open it out so that you can look at it, it becomes the same thing as an ulcer. In this treatment which we were so long finding out in the cure of tuberculosis, we have applied the things that nature knew long before man began to practice medicine. The wounded animal went off and lay down and rested until it got well. If you have a broken bone, put it back into position and hold it there until healing has had time to take place. If you have an ulcer, don't manipulate it, don't bother it; let nature take her course without disturbance from the behavior of the patient or the misbehavior of the doctor. Nobody massages an acute process. Nobody tries to make the bladder that is inflamed more active; we put in a catheter or we do a suprapubic drainage. When the patients gets an inflammatory process in the alimentary tract we take him off his food. When the man who is used to public speaking gets an inflammatory condition in his throat, in his larynx, in his vocal cords, we say, "Stop using it." That is the vital thing in this work that is being done, that we were so late in discovering, and that, if I may say it, we are so far from knowing all about (Dr. Caldwell emphasized that), but the principle is there just the same.

When that patient breathes eighteen or twenty times a minute, he collapses this ulcer, he opens it out, he is moving it all the time. That is like a man walking all the time on a sore foot.

We draw a column here and make this zero, and this average function. Absolute rest is incompatible with life; these tissues have got to do something to take care of themselves and to take care of their own life. What we are trying to do in this is to get off the work that they are doing to take care of the remainder of the body. Rest must not come to zero; that is death. Therefore, in the treatment of pulmonary tuberculosis by surgical measures, it is up to the surgeon to find the place between average function (certainly nobody would expect one of them to over-function, to do more than average function, and therefore we rest the patient's body) and zero that will give this patient a chance, a reasonable chance, to get well.

The three methods of treatment that we have are such that we can step it down and try this one. You can do a phrenicectomy, which is a permanent thing, and cut it down to here (illustrating by figure on blackboard). You can do more than that if you add your pneumothorax. That is variable. You can get over that as soon as the air is absorbed. And this one is permanent. You can put this one down to the point, even as the last speaker said, of taking in more than one side if you want to.

If you consider this the chest wall, one of the dangers of the pneumothorax is that adhesion is likely to occur over the surface of the pathological process in the lung. The lung is weak at this point. If you make pressure on the inside, you get your adhesion on the stretch, your lung is pulled out this way (illustrating), and a plug pulls out here and you have very likely killed your patient in the first place, and if you haven't you certainly produce a very severe and very uncomfortable complication.

We ought to be sure that the patient is fit for pneumothorax before pneumothorax is done.

One other point that I would like to call attention to is one that I think we who operate are likely to forget. Somewhere in there between the average and zero is your surgical procedure if surgery can cure this patient. We forget, sometimes, that there is a dose of surgery. This is an ideal field for limiting, restricting, the dose of surgery. I am talking about thoracotomy now. It is much better to take out two or three ribs today and then in a month or six weeks, if it is necessary, take out two or three more ribs and then later take out two or three more; in other words, we ought not to set ourselves to the task of doing a certain amount of surgery in any particular case. We can decide what it is, and four operations, five operations, with a living patient, is a much more satisfactory procedure, in spite of the fact that the people never understand why you didn't do it all at once. I don't think the layman ever understands what a doctor is talking about anyhow. Even when the doctor says "pimple" to him he doesn't know what it is. Pimple means something entirely different to the layman from what it means to us. It is much better to do three or four or five piece-meal operations with a living, cured patient, than to do an ideal one time, two time operation, with a patient that does not survive.

DR. J. B. NAIVE (Knoxville): I am tremendously interested in this discussion. I have followed the literature as closely as possible during the last several years. In all my reading I have never read a more classical, more thorough, more absolutely complete paper than Dr. Caldwell's paper was.

In regard to this proposition I want to say first that I think it is a life-saving measure in many, many instances. I think it should be studied and should be adopted very much more generally than it is. I think it calls ideally for the closest teamwork in the world between the medical men, the tuberculosis men, and also the surgeon. I think it presupposes careful rechecks by the medical men so as not to miss some phase that puts it over in a hopeless condition. In regard to the surgeon, I think it calls ideally for teamwork that you can't get by having this man help you today, that man tomorrow, the other man the next time.

I think it calls for an extraordinarily specialized type of surgery in which gentleness shall rule supreme. As Dr. Bryan said, to know precisely your dose, and to give precisely that dose; otherwise you are going to kill a great many people.

Even with respect to a phrenicectomy, as simple as it is in technic and as simple as it is in theory, I want to assure you that I was in on one the other day that put us down next to some big vessels where you could do a tremendous amount of harm very, very easily.

In general I think you should figure that there are certain contra-indications which should not be overridden, chiefly the onesidedness. Roughly speaking, ten per cent will qualify for pneumothorax. I do want to assure you of this from my little experience of probably seventy phrenicectomies and thirty or forty thoracoplasties that I have had to do with indirectly and directly, whenever you over-ride a definite contraindication you are in for real grief.

As to the pneumothorax, it is a fairly simple thing, though I do think it should be considered as a surgical procedure. I do not think it should be started if there is much trouble on your better side, because you are very liable to get into trouble. I think it should be very carefully followed along. You will get fluid in a lot of cases, probably fifty per cent. Fluid in itself is not a bad thing, though it does complicate your work, and if you get it infected it is a bad thing.

As Dr. Bryan said, you are liable to get into very much trouble with your adhesions, chiefly because they prevent your success.

There has been an operation done in Europe, and to a slight extent in parts of this country, by which they have cut those adhesions, a highly specialized performance, one I have seen tried only once, but one which can in the best of hands go on very well, I think, and worth trying in those good hands. But none of this work is worth trying, and it is all dangerous, in any but trained hands.

Now the thoracoplasty. Whenever you have a one-sided case and you have tried your pneumothorax and you have failed, remember this: You cannot get a cure in that case. You are either doomed to hopeless invalidism, or sooner or later to a spread on the other side which will take the life of the patient, so you are driven either to phrenicectomy or to thoracoplasty. I wish to assure you that that in my own experience you very rarely get all you want from a phrenic operation in a case of this type. Occasionally (and it is worth waiting for a little while) the phrenicectomy comes in and it is a godsend. In a case of this sort, every basal lesion should certainly have a phrenicectomy and have it very early, because these basal tuberculosis things are highly dangerous and should be treated immediately and radically. By radically I mean surgery. Then, if driven to a thoracoplasty, I firmly believe if you have the medical man on one hand and high class, careful, graduated surgery on the other hand, you can get a result which will in many, many cases produce a cure.

I just want again to pay tribute not only to the paper but to the other gentlemen who have discussed. I enjoyed it all.

DR. C. J. CARMICHAEL (Knoxville): I wish to speak to only one phase of this subject. In the first place I should like to reverse the order in which Dr. Bryan put forth these procedures. It seems to me that the phrenicectomy or your thoracoplasty offers the same danger of pulling out that plug that the pneumothorax does.

It is to the subject of pneumothorax which I wish to speak. It seems to me to be distinctly a surgical procedure, and a procedure which should always be carried out under the fluoroscope. I have yet to see the man who is good enough in his physical examination to tell exactly how much collapse he has of that lung and how much air is left from the previous pneumothorax.

It has been my practice always to do these under the fluoroscope in order that I may see exactly where my needle is, because I think many of these adhesions are formed as the result of previous punctures, reaching the pulmonary pleura. If you can do that operation under the fluoroscope so that you can watch your needle, so that you can see the exact amount of collapse of the lung, you will avoid a great many of the serious mistakes that have been mentioned.

DR. ROBERT CALDWELL (Closing): Thank you, gentlemen, for the discussion. My idea in bringing this subject before the Association was to cause you to think about it a little more. As the men discussed it, we all realize that there are many problems related to this that we don't know yet. It is in its infiancy. I hope that in the future years we will be able to expand this treatment and treat cases that we are not treating at the present time. It may be applicable to cases that at the present time we do not think it is applicable to, and vice versa. I assure you that there is merit in the surgical treatment of pulmonary tuberculosis, and I heartily recommend it to your consideration.

FACTORS THAT MAKE FOR SAFETY IN SURGERY OF THE GALL BLADDER*

R. L. SANDERS, M.D., The Polyclinic, Memphis

DURING the past quarter century great improvement has been made in gall bladder surgery; it has kept pace with all phases of economic development. Much confusion still exists, however, in the minds of the laity and many physicians regarding both the dangers and the benefits of operations on the biliary system. Clinicians and surgeons are clarifying the whole subject by publishing pertinent data and establishing criteria for surgical indications. The records of mortality and immediate post-operative course to be found in hospitals are also valuable sources of information and should be freely used in studies of the problem.

Cholecystitis in some form is probably the most prevalent of all adult diseases; it heads the list of the causes of digestive disturbances. We are more and more aware of the significance of qualitative food dyspepsia, bloating, belching of gas, and epigastric fullness and distress.

Cholecystic disease is relatively common in children. We have removed the gall bladder from two patients under five years of age, and from others under twenty years. The average age of a large series of patients on whom cholecystectomies were done in our clinic was 43.8 years.

A decision to operate on a gall bladder is always a serious matter. The majority of physicians are a little cautious about submitting themselves to such a procedure. The Golden Rule should be the guiding principle in all cases. On the other hand, timidity has no place in the surgical management of gall bladder disease; boldness in action and the ability to see beyond the operation and visualize the patient as a rehabilitated, useful citizen is essential.

According to the record, the first cholecystectomy performed in America was in 1885. Since that time, pioneers in gall bladder surgery have sailed uncharted seas. When one man's craft struck a rock and sunk he lifted a signal so others might avoid the danger and bring their precious cargoes of life safely to shore. Wit has been matched against emergency, with the result that many safety factors have now been established. The trained surgeon of today, the well equipped hospitals, and a suitable plan of preoperative and postoperative treatment have made surgery reasonably safe for the patient. A proper consideration of several factors will reduce the dangers of gall bladder surgery. These will be discussed in the following order:

1. Early and accurate diagnosis.
2. Adequate evaluation of the patient's physical condition.
3. Preoperative preparation.
4. Choice of anesthetic.
5. Adequate exposure.
6. Careful technic.
7. Sound judgment in the type of operation used.
8. Drainage.
9. Postoperative care.
10. End results.

THE IMPORTANCE OF EARLY DIAGNOSIS AND TREATMENT

Early diagnosis must rest in the hands of the clinician. We owe it to our patients to advise them of the advantages of early operation, before the liver, pancreas, heart and kidneys are damaged. Delay tends to the formation of stones, with secondary dangers and complications. When stones pass into the common duct and cause obstruction, with a consequent jaundice, intrahepatic infection, cirrhosis, and acute pancreatitis, additional risk is involved and the whole prospect becomes more serious. Carcinoma secondary to chronic irritation produced by stones and infection is not uncommon.

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16.

ADEQUATE EVALUATION OF THE PATIENT'S PHYSICAL CONDITION

Obviously, a thorough examination should be made in all cases before operation is advised. Herein lies the greatest opportunity for team work. It is an easy matter to mistake a cardiac lesion for a biliary complaint; an attack of angina pectoris may resemble gall stone colic. A careful clinical study and the correct interpretation of an electrocardiogram may clarify the diagnosis.

In our clinic we have seen a rather large number of patients with cholecystitis in the fifth decade of life whose blood pressure was subnormal and in whom other evidence of low cardiac reserve was present. In many of these the strawberry type of gall bladder was found at operation. As a class, they have been poor surgical risks and the mortality rate has been disappointingly high. More recently, however, we have been recognizing cases of this type and, after proper preparation, such patients are made safe for operation.

In evaluating the condition of patients with gall bladder affections, the pitfalls are many. Nothing less than an assiduous study will suffice to make them fit for surgery.

PREOPERATIVE PREPARATION

The presence of extrahepatic duct obstruction is an indication for a careful preoperative preparation. Obstructive jaundice is the surgeon's nightmare; he fears it as he does intestinal obstruction and acute hemorrhagic pancreatitis (the greatest of all abdominal catastrophies). In recent years, the reduced mortality rate and incidence of postoperative complications are results rather of adequate preparation of patients than of improved technic, skill, speed of operation and manual dexterity.

Painstaking care is necessary in the preparation of the patient with jaundice and a low glycogen reserve, impaired liver function, and in whom blood coagulation is slow. Such conditions should never be looked upon as emergencies. The intravenous use of calcium for three or four days, the administration of glucose, blood transfusion when secondary anemia is present, and the abundant intake of fluid to maintain water balance should be carried out before operating on a jaundiced patient. The incidence of shock and postoperative hemorrhage will thus be diminished and the safety factor appreciated.

Patients with low cardiac reserve should have a few days' rest in bed, accompanied by large doses of digitalis.

In the usual uncomplicated gall bladder case with or without stones and with no invasion of the ducts, so thorough a preparation is not required. It is only necessary that these be well prepared by the use of sufficient carbohydrate foods and fluids.

At best, all gall bladder surgery is serious and careful preoperative preparation is none too good for any of them.

CHOICE OF ANESTHETIC

The choice of the anesthetic is the responsibility of the surgeon. The first requirement is complete anesthesia with the smallest risk to life and the least discomfort to the patient. A trained anesthetist is essential.

Prior to 1925 we employed ether almost exclusively. Respiratory complications were common and were the cause of most of the deaths following gall bladder surgery. Mixed with gas oxygen, ether is still the anesthetic of choice for producing relaxation.

Ethylene oxygen is used while the gall bladder is being approached and a small amount of ether is added during the manipulation of the gall bladder and ducts. We frequently continue with the ethylene ether during the closure of the first layer of the abdominal wall and complete the operation with gas oxygen.

One of the most effective means of preventing postoperative pulmonary complications has been the hyperventilation of the lungs after concluding the anesthetic by the use of a large amount of carbon dioxide. The patient breathes deeply to expel all the anesthetic from the lungs so the acini may be thoroughly ventilated with oxygen. This is repeated in the patient's room once or twice a day for two or three days postoperative. Since we began this practice, our pulmonary complications have been reduced to a minimum and the mortality has been correspondingly decreased.

Spinal anesthesia is being more generally employed. Although its use is limited, it is reasonably safe. The adequate tissue relaxation which it affords is its chief merit. The straining, coughing, vomiting, and cyanosis which occur occasionally during operation under general anesthesia are avoided when spinal anesthesia is given. Further, the relaxed wound may be more satisfactorily closed and the danger of incisional hernia thereby lessened. In gall bladder surgery, unfortunately, spinal anesthesia is not always complete. We use it only in the exceptional case.

One of the greatest contributions to the comfort of our patients has been the barbital preparations as a preliminary to anesthesia. Six to nine grains of sodium amytal given one hour before the operation will allay fear and be most helpful, especially in nervous patients. We have used it in several hundred cases and have adopted it as a routine procedure.

The anesthetic of choice should be the one which affords the maximum tissue relaxation with the minimum respiratory complications.

ADEQUATE EXPOSURE

One of the most important factors for the safety of the patient, and certainly the greatest aid to the surgeon, is the proper exposure of the operative field. The incision should be advantageously made and of sufficient length to permit such exposure. Usually, an upper right rectus incision with some modification is more suitable. The middle of the incision should be over the common duct. When exposure is adequate, relaxation may be more complete, the ducts and vessels may be visualized and more safely handled, trauma and hemorrhage may be avoided, and a much more accurate and aseptic technic executed.

From my own experience, I consider ample exposure of the greatest value in performing safe and satisfactory gall bladder surgery.

CAREFUL TECHNIC

Careful technic is necessarily based largely on the foregoing factors. Speed in operating is valuable at times, but should never be practiced at the expense of accuracy and painstaking care when working on the gall bladder and ducts.

The ducts and vessels must be identified before they are clamped or cut; it is an easy matter to injure the common duct unless scrupulous care is exercised in identifying all the structures. The duct should not be transfixed below the clamp and ligated, otherwise leakage might occur. No. 1 plain catgut is preferable for ligating the cystic duct; larger chromic catgut may not be quickly absorbed and may encourage leakage. It matters little whether or not the cystic duct and artery are ligated separately or together.

The gall bladder bed in the liver should be neatly sutured and the wound made perfectly dry.

Soutter says, "Surgery is essentially an art, for it demands of those who would pursue it a combined dexterity of hand and eye, and an instinctive perception of values which are the characteristics of the true artist."

Nicety of technic at every point is most essential for a safe and easy convalescence.

SOUND JUDGMENT IN THE TYPE OF OPERATION USED

In the majority of cases, the gall bladder should be removed. In all cases the common duct should be carefully examined; if stones are present, they should be removed. If the common duct is enlarged, and if justified by the clinical history, an exploratory choledochotomy is indicated. One will often be rewarded by finding hidden stones which might produce serious consequences if overlooked. Thoroughness in this respect may constitute the difference between success and immediate or eventual mortality.

When the common duct is suddenly decompressed by the removal of stones and the consequent drainage, the reaction is often profound. We have been able to obviate this in some cases by suturing the common duct after removal of the stones and allowing the bile to escape into the intestinal tract.

If the common bile duct is obstructed on account of chronic pancreatitis or a malignant growth in the head of the pancreas, the gall bladder will be distended. It should not, however, be removed. The fundus may be ansastomosed to the stomach or some portion of the intestinal tract and the bile current diverted around the obstruction.

Cholecystostomy is still indicated in selected cases. Partial cholecystectomy is a useful and safe operation in a small number.

In order to give the patient the greatest benefit with the smallest risk, one must use sound judgment in the selection of the most advantageous type of operation.

DRAINAGE

In the September, 1930, issue of *Annals of Surgery*, I reported 500 cases of cholecystectomy, of which 172 were closed without drainage. There was no evidence of bile leakage in any of the 172. The only mortality was that of one patient who died on the fifteenth day postoperative on account of suppurative parotitis; the abdominal wound had healed entirely and death was in no way related to the method employed. Since that time, about fifty additional cases have been closed completely, with equally satisfactory results.

The use of drainage after cholecystectomy is contingent on the presence of accessory bile ducts and the peace of mind of the surgeon. In infected cases, of course, all agree as to the necessity for drainage. If the wound is closed without drainage, convalescence, as a rule, is easier, smoother, and less painful, the hospital stay is shortened and the incidence of wound infection decreased. In properly selected cases it is not only safe but desirable to close without drainage; however, to insure absolute safety in all, the original wound may be closed and a Penrose drain may be brought out through a stab wound on the side. Large tubes placed in contact with the stump of the cystic duct encourage drainage.

All drainage material should be removed entirely within twenty-four to forty-eight hours.

POSTOPERATIVE CARE

No routine procedure can be followed; each patient must be given individual care. Fluids should be freely used to maintain water balance. When vomiting occurs, the stomach should be washed, a Levine tube placed through the nose, and the patient should be encouraged to drink as much water as possible. The use of the Levine tube has not only afforded our patients added comfort, but has been a safety factor in many cases.

Liquid food should be taken after twenty-four to thirty-six hours. A large quantity of glucose or dextrose solution given intravenously or subcutaneously will be helpful in building up low glycogen reserve. In my opinion, opiates and sedatives should be used freely for inducing rest and sleep.

I know of no group of cases in which individual postoperative care is of so much value.

END RESULTS

The immediate mortality for all gall bladder and biliary tract surgery should not exceed 5 per cent. In our series of 500 cholecystectomies, it was 4 per cent. Most of these deaths occurred prior to 1925, from respiratory complications following the use of ether. The remote end results were most gratifying. Complete relief was obtained in 87 per cent and partial relief in 9.3 per cent; 3.7 per cent were not improved. Today, however, a better selection of cases and the added factors of safety are enabling us to materially reduce the mortality.

Failure after any type of biliary surgery makes a most interesting study. We shall always have a certain number of poor results, but with scrupulous regard for safety factors, they should be reduced to a minimum. We must constantly seek to alleviate the distress of the patient, to achieve the best end result, and to reduce the mortality to the lowest possible rate.

DISCUSSION

DR. HERBERT ACUFF (Knoxville): Needless to say we have enjoyed Dr. Sander's paper very, very much. It gives some of the high points in the operative risks of gall bladder surgery which up to this time at least have been quite a bugbear to all of us.

I shall touch just a few of some of the high points that have been difficult in handling these papers. In getting our cases ready for surgery lies the secret of our operative risk. So many of these cases come to us with acute catarrhal jaundice. Just as soon as we operate on those cases in the acute catarrhal type of jaundice, just so sure we will add one more to our mortality.

If I had just one thing to say in my discussion of this paper, I would say that the preparation of the acute catarrhal type of jaundice is the thing upon which we should lay stress.

For some reason or other, the statistics accumulated over the world show that twenty per cent of our cases die of peritonitis. Whether that is an indictment of surgical technic, whether it is an indictment of pre-operative judgment in the case to be selected, or whether it is the fault of ourselves, remains to be seen.

Another failure of our cases is that twenty-five per cent of the cases go out under cardiac failure, cardiac insufficiency. My own construction of the cardiac insufficiency of these cases is this: That we fail to recognize the glycogen reserve which has been left in the liver or which should have been left in the liver prior to our operation. When you stop to consider that a common duct stone, for instance, or any blocking of stone which allows the free transmission of the bile from the liver down into the intestine prevents immediately the digestion and absorption of the fats, and which in consequence calls upon the further digestion of carbohydrates and so forth and the depletion of the glycogen reserve in the liver, and with the glycogen reserve in the liver a consequent depletion of the cardiac reserve, then you recognize just what the amount of bile flowing through the liver and the hepatic ducts means to the patient's reserve.

This can be recognized in one or two or three different ways. If you have the time or the inclination to run the blood chemistry, you can recognize it in a depletion of the glycogen or sugar content of the blood; if you don't recognize it that way an increase in the urea retention in the blood will give you the index.

If you are not in position to recognize it in the blood chemistry, the presence of urobilin and urobilinogen in the urine will give you the criterion. Those things can be done. Your safety factor can be augmented by increasing the amount of fluids in the body, increasing or neutralizing or weakening the poison.

In addition to that you can give your glucose if you have a questionable case or questionable factor to be considered; the amount of glucose guarded with insulin, in the necessary amount, can be given and add greatly to the safety factor in these cases.

One other question about the type of operations which Dr. Sanders very wisely mentioned. It is always a question when a man removes the gall bladder whether or not he is doing the right thing. Suffice it to say that the statistics show that of all the gastric and intestinal disturbances, about 86 to 94 per cent of them are relieved by cholecystectomy. That, to my mind, is adequate answer for the operation of cholecystectomy. You do have this case, however, you do have this condition, that the stones remaining in the common duct add twice or double the mortality of your case.

Going rapidly along then with the operation, following with postoperative treatment, of course, there is no surgeon who would assume the risk of responsibility in the case of a cholecystectomy without having sufficiently hydrated his patient with plenty of fluids and plenty of calcium, with plenty of glucose.

The parathormone is one of the latest things in throwing out the amount of calcium production to the thyroid and parathyroid bodies and helping to sustain the vital reserve of the individual.

The postoperative treatment, of course, as Dr. Sanders mentioned, amounts to just this: Watching for that cardiac reserve. The postoperative treatment can be summed up in just one or two words: A sufficient preoperative diagnostic recognition of your patient's vital reserve. The postoperative treatment amounts to very little if your preoperative treatment has been right. That is the parting admonition I would leave to those who are constrained to remove gall bladders: Recognize first your vital reserve, second the choice of anesthetic, third the risk that you are taking from a cardiac standpoint. When you recognize that 20 per cent of our cases are knocked out by a cardiac insufficiency, you must recognize that there is something that should be corrected before the operation takes place.

I enjoyed Dr. Sanders' paper very, very much. It was a brilliant review of the surgery and the present-day conception of gall bladder surgery.

DR. H. M. TIGERT (Nashville): I think that Dr. Sanders has treated a very important subject in an essentially safe and sane manner. There can be no question as to the seriousness of gall bladder or biliary disease. It has been a common experience, I think, in the hands of almost all surgeons to encounter disastrous results in certain cases when it was totally unexpected. On the other hand many brilliant cures are frequently attained under conditions which are very serious.

I was glad that the Doctor emphasized the frequency of gall bladder disease. Heretofore many have regarded cholecystitis or cholecystitis with stones as a disease of middle life and perhaps in most instances past middle life. I operated on a girl 18 years of age who had chronic cholecystitis associated with a great number of stones. Young individuals are not infrequently affected with cholecystitis. Past middle life many cases of so-called "nervous dyspepsia" are in reality cases of gall bladder disease.

There can be no question about the seriousness of cholecystectomy. In general it may be said that there are many operative procedures in which the most careful surgical technique may not be carried but nevertheless satisfactory results are obtained. This is particularly true of many abdominal operations and especially so in pelvic surgery. When dealing with important structures such as the gall ducts the best results can only be attained through careful judgment and perfect technique. The operator should be skilled and experienced.

Time was when no effort was made to diagnose cholecystitis prior to the formation of stones. This was a serious mistake. Dr. Sanders has very properly emphasized the fact that chronic cholecystitis should be dealt with surgically before the appearance of stones. He should be highly commended, since the majority of his cases, about two-thirds I believe, were operated on before the formation of stones. To wait for stone formation is merely to wait for a terminal process. In such neglected cases not infrequently great damage is inflicted upon the liver and pancreas. In long neglected cases, even after ideal operative procedures, patients may present a prolonged convalescence with recurring attacks of colic similar to that seen with stones.

In closing I desire to emphasize three points:

1st. Jaundice cases should not be subjected to immediate operation, but should have careful preoperative preparation.

2nd. A long right rectus incision should be made. The incision should be long enough to obtain perfect exposure and enable the surgeon to work with ease. If short incisions are made it not only hampers the actual work on the gallbladder and ducts, but renders the examination of other abdominal organs ,such as the stomach, duodenum and appendix, difficult. The old saying, "A long incision heals as quickly as a short one", still holds good.

3rd. Many cases of common duct stones are overlooked. Surgeons are searching the common duct more carefully than formerly. To insert one's finger through the foramen of Winslow and merely palpate the common duct is not sufficient in all cases. The common duct should be inspected and when found dilated should be incised and explored. Not infrequently one will be rewarded by finding stones in the duct which, otherwise, would be overlooked.

DR. R. L. SANDERS (Closing): The discussions have added much to the paper.

If time would permit, I would like to discuss the management of acute cholecystitis, especially in that group of cases where the gall bladder blood supply has been damaged by vessel thrombosis. In conditions of this type, the operation of partial cholecystectomy has its place and merits our consideration. Our results have been most satisfactory following removal of the gall bladder in such acute cases. On the screen you will note several slides demonstrating this point. You can see the large distended gall bladder and devitalized wall secondary to incomplete blood supply. Necrosis and impending perforation are visible in several places. Delay is serious in a few of these cases.

Patients now come to us much earlier than formerly. The average age of a fairly large group of our patients with gall bladder disease is forty-three years. The end results in this series are shown on the following three slides. Eighty-four per cent of these patients obtained complete relief, 11 per cent partial relief, and less than 4 per cent were not benefitted. The digestion was improved in 95 per cent of all cases. Colic recurred in 12 per cent of the entire number. No cause has been assigned for the recurrent colic in many, but as it is of short duration and recurs infrequently, it is of no consequence. In two patients subjected to a second operation, however, stones were found in the common duct and removed, thus effectually curing the colic.

We observed some degree of hernia in eight per cent of this series. In order to obviate incisional hernia, careful technic should be employed, soiling and infection of the wound reduced to a minimum, and satisfactory abdominal relaxation for wound closure secured by proper anesthesia. Spinal anesthesia has been proved very satisfactory for this purpose, although we have used ethylene and ether almost exclusively. Very few hernias have occurred in our cases following closure of wounds without drainage.

THE USE OF SODIUM AMYTAL FOR THE ALLEVIATION OF PAIN DURING LABOR*

Milton Smith Lewis, M.D., Nashville
Robert Hamilton, M.D., Nashville

OBSTETRICS presents a large and varied field for practice and observation for the student of anesthesia; the patient's condition and the nature of her surroundings often make the choice of method to be employed a matter of considerable anxiety, and the responsibility is increased by the fact, in general, there are two lives instead of one to be considered and the method of choice for the mother may be inimical to the safety of the child.

The alleviation of pain during the progress of labor has been attempted in a multiplicity of ways. There is no method to date successfully applicable to all cases. To say that any method never causes temporary cessation or retardation of labor would be to misstate the facts of observation and experience. It must be admitted that no single agent or method, or combination, is at the present time adequate to completely divorce the function of parturition from suffering. Investigation, therefore, of the possibilities of any method not included among those commonly in use, may contribute to this desirable end. For consideration more or less peculiar to obstetrics impels a more careful scrutiny into the possibilities of anesthetic methods, other than inhalation narcosis. The work done in this field is inadequate, but we believe it to be of sufficient interest to warrant further study by obstetricians who are thoroughly familiar with the use of analgesics.

This report is concerned with the intravenous and intramuscular use of Sodium Amytal (iso-amyl-ethyl-barbituric-acid) for the production of analgesia and anesthesia in obstetrics. This and other barbituric acid derivatives have been used to a very limited extent in obstetrics in the United States.

In France, L. Cleisz(1) used a barbituric acid derivative known as Somnifene to abolish pain during labor and came to the conclusion that it was superior to any other form of obstetric anesthesia. Delmas and Roume(2) reported unfavorably on their experience with the same drug. Riss(3) concludes that Somnifene used intravenously is useful except for the sometime violent agitation. Dujol and Clement(4) were not favorably impressed.

In this country Robbin and collaborators (5) were the first to use Sodium Amytal in obstetrics and report favorable results with its use in one hundred cases. Drabkin and his associates(6) used Sodium Amytal rectally in thirty-three cases and found it to produce effective anesthesia in a large proportion of their obstetrical cases. Swendson(7) reported satisfactory amnesia in nine out of ten cases in its use intravenously in forty-six cases. Morehead and Mussey(8) of the Mayo Foundation used Sodium Amytal by mouth. The most outstanding feature they noticed was that dilatation of the cervix was completed within three hours in the primiparae, and complete dilatation in one-third of the multiparae within one hour after the oral use of Sodium Amytal.

For the past eighteen months at the Nashville General Hospital we have been studying and extending the use of Sodium Amytal in obstetrics. At the present time we have used it in one hundred and fourteen cases with very satisfactory results. We have been convinced of its usefulness and have been gratified to see it meeting with approval throughout the country.

While the history of Sodium Amytal is relatively short as compared with that of ether and nitrous oxide, the enormous increase in its use is significant of its merits. When using Sodium Amytal certain precautions must be observed; to ignore them and then blame the drug for unsuccessful results is most unfair. The varying degree of enthusiasm attending the experiments with new drugs and methods is the most common single factor in the wide difference in results reported.

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16.

From the Obstetrical Service, Nashville General Hospital, Department of Obstetrics, Vanderbilt University.

In the use of drugs for the alleviation of pain or for the production of sleep, there is a great need for the careful study of the effects of the drug, its adaptability to the purpose for which it is intended, and a most careful individualization of dosage. If we are to use these products we must study them carefully, and determine for ourselves by actual clinical experience when they may be of benefit to a patient, the proper dosage in each instance, and the recognition of cases where their use is contraindicated. The successful use of Sodium Amytal in producing narcosis sufficiently deep to allow major operations to be performed without any serious after-effects indicates that it might well be a most useful agent in the field of obstetrics.

In the use of Sodium Amytal the technique of administration together with the estimation of the individual dosage plays an important role. In view of the fact that there are individual variations in the action of almost all drugs, we have felt that the intravenous administration of Sodium Amytal afforded the best method of controlling the dosage as well as for making accurate observations. The main advantages of the intravenous over the oral or rectal administration is the speed and ease with which sleep is induced and that the administration can be discontinued when the desired degree of sleep and relaxation is obtained.

It may be used intravenously, intramuscularly, orally, or rectally. When used intravenously close observation is desirable to determine the first signs of loss of consciousness as it affords reliable information regarding the additional amount which will be required to obtain the desired effect. Most patients who lose consciousness after the administration of three to four grains do not require as great an additional amount as an individual who requires five to seven and one-half grains before losing consciousness.

The drug is prepared in a white crystalline form and is sealed in pyrex ampoules. A ten per cent solution has been found satisfactory for intravenous use. Ten cubic centimeters of sterile distilled water is mixed with the Sodium Amytal by gentle agitation, and as a rule, in one to three minutes a clear solution results. If the solution is opaque, it should be discarded as a freshly prepared solution is desirable. For this injection a ten cubic centimeter syringe is used with a fine hypodermic needle, and the solution is injected at the rate of about one cubic centimeter per minute.

The dosage varies according to the patient and effect desired. One should never lose sight of the fact that the dosage of anesthetic drugs is extremely variable for different individuals, and that a predetermined dose based on body weight, age, or any other known factor is seldom reliable. Physical signs, alone can determine the effect of these drugs. The most satisfactory method of judging the dose is to engage the patient in conversation, or ask her to count and by the time she counts to one hundred and fifty, without any period of excitement, the patient passes into a quiet sleep. Any drug, therefore, that is administered intravenously must be given in dosage short of that necessary to produce complete, deep surgical anesthesia. An initial dose of 0.5 gm. (7½ gr.) has been effective for a woman weighing one hundred and fifty pounds (68 kg).

The administration of Sodium Amytal is begun when the patient is in active labor, with uterine contractions occuring every three to five minutes and lasting forty seconds. The strength of the contractions are best judged by placing the hand on the abdomen and timing them with a watch as the outcry of the woman is often a poor index of the strength of the pain, and examination reveals the cervix partially effaced with two to three fingers dilatation. In a multipara the injection can be started before this degree of cervical dilatation is reached, provided the pains are of the proper length and interval as described. The solution is injected slowly, one cubic centimeter per minute until the entire ten cubic centimeters are administered. The patient is usually asleep by the time three or four cubic centimeters have been administered.

When signs of returning consciousness, such as complaint of pain, or rational responses to questions, are noted, a second and even a third dose from .337 gm. (5 gr.) to 0.5 gm. (7½ gr.) is administered. The average interval between doses, when the drug is repeated is two and one half hours. Our largest dose in any one case was twenty-two and one-half grains. The second dose is usually given intramuscularly, rarely is the second or third dose intravenously necessary. This technique has invariably been followed in the large majority of cases. Thirty-three patients or forty-three per cent of the cases required a second administration of Amytal. Three patients, or 3.9 per cent required a third dose. The cases that required a third dose were in primiparae with occipito posterior position, they were all delivered by medium forceps with additional anesthesia. In the cases that show undue restlessness, morphine grains 1/6, scopolamine grains 1/150 is administered soon after one can ascertain whether the restlessness might interfere with the safety of the patient. This has been used in only twenty cases and we feel positive that it lessened the degree of restlessness to a great extent. Further observations will have to be made to come to any definite conclusions.

After the administration of Sodium Amytal in a ten per cent solution the following effects are observed: the rapidity and ease with which the patient falls asleep without any stage of excitement; deep sleep comes within two to five minutes, the respirations are at first decreased in amplitude and rate, but are regular. The blood pressure is reduced from ten to thirty millimeters during the injection or a few minutes afterwards, but usually returns to its normal level in from ten to twenty minutes. The patients retain a normal coloring of the skin throughout. The pulse is somewhat slower and of excellent quality in the majority of patients; occasionally a rapid pulse is noticed but this is the exception rather than the rule. The rate of the fetal heart was not effected in any case prior to delivery.

We have used Sodium Amytal in a total of one hundred and fourteen cases, twenty-two cases of which were for the control of eclamptic convulsions. In sixteen cases we did not have adequate observations for tabulation and these are not included in this report. We have made a detailed study of the remaining seventy-six cases and believe it to be of sufficient interest to warrant this report.

The average time from the first administration to delivery was three hours and fifteen minutes in forty-nine primiparae; and two hours and thirty minutes in twenty-seven multiparae. In only eight cases was the delivery delayed over six hours after the initial dose of seven and one-half grains. The longest interval was twelve hours in a case that was subsequently delivered by version and breech extraction. The shortest interval was twenty minutes.

The character of the contractions when in actual labor was not noticeably effected to any degree. Only in five cases was labor retarded and that was only for a short time. It was felt that these patients were possibly given the Amytal too soon and were more sensitive to pain than the normal, rather than severity or frequency of the contractions. In patients who were given the drug two hours before delivery, labor seemed to be somewhat hastened. The average duration of labor was nine hours in the multiparae and sixteen hours in the primiparae.

Sodium Amytal, like all other barbiturates, is prone to cause restlessness, which is a definite annoyance, but it is interesting to report that restlessness occured in our cases only during a pain or when the patient was disturbed. In five patients, or six per cent of the entire series, extreme restlessness occurred and to such an extent that they had to be restrained; twenty patients, or twenty-six per cent, were moderately so; twenty-four patients, or thirty-one per cent, were slightly so. In twenty-seven, or thirty-five per cent, there was no restlessness, the patients sleeping soundly throughout the labor.

In the majority of cases we were able to control the restlessness when it was slight or moderate with morphine and scopolamine. In the five cases of extreme restlessness, gas oxygen, ether or chloroform was resorted to before labor was terminated. Additional anesthesia at the time of delivery was used in thirty-nine cases. However, only small amounts of these anesthetics were used except in the operative cases.

The most striking observation was the degree of complete amnesia obtained in this series, sixty-three, or eighty-three per cent, of the entire series had no recollection of anything after the first injection of Sodium Amytal; most of them were reluctant to believe that the labor was over, and they remarked when questioned that the last thing they remembered was the "shot in the arm". The remaining thirteen or seventeen per cent classified as partial amnesia remembered something after the injection; either remembered going to the delivery room or some incident during the delivery, yet remembered nothing of the baby being born. This is the most striking phenomenon observed in the use of Amytal and we believe that this is one of its greatest advantages for there is no drug of which we have any knowledge that gives such a large proportion of complete amnesia. It was interesting to note that there was no relation between the degree of restlessness and the degree of amnesia.

The blood pressure was recorded in all patients before, during and after administration. Twenty patients, or twenty-six per cent, showed a decline of more than ten millimeters of mercury; the maximum drop was forty millimeters in a pre-eclampsia, but returned to normal in twenty minutes; thirty patients, or thirty-nine per cent, showed no change in the blood pressures. It was noticed that the higher the blood pressure the greater and more frequent would be the depression. In all cases the blood pressure returned to normal in twenty minutes.

Resuscitation was necessary in six of the seventy babies. Two that were delivered spontaneously were slightly apenic and breathed after clearing the air passages. Three of the asphyxiated babies were breech deliveries but resuscitation was easily established by tubbing and slight stimulation. One infant delivered by mid-forceps was asphyxiated and wes resuscitated, but with difficulty.

The remaining infants breathed and cried spontaneously; there was no evidence that the Amytal had any deleterious effect, nor were any of the babies unduly narcotised and all were able to nurse normally.

Low and medium forceps were resorted to in fourteen cases. Version and breech were performed in six cases. Fifty-six were delivered spontaneously.

There were six stillborns in the series. One in a premature separation of the placenta, one macerated fetus in a pre-eclamptic mother; one attempted forceps before admission to the hospital; one baby with the cord tightly wound around the neck; one in a para five in labor thirty-three hours, with prolapsed cord. One version and breech extraction in a primipara with difficulty in the delivery of the after coming head.

All patients regained consciousness and were rational in one to six hours after delivery. Nausea and vomiting were conspicuous by their absence. There was no evidence of any increased bleeding. All patients were very enthusiastic about the relief obtained. On questioning, each expressed a desire for its use in their future deliveries.

In forty-seven cases the results were excellent, the patients being quiet during the entire period of delivery. In twenty-four cases the results were good . These patients were slight to moderately restless during pains only, but slept soundly between pains. In five cases the results were classified as poor as the patients were extremely restless and had to have additional inhalation anesthesia to control them.

SUMMARY

Sodium Amytal has been used intravenously in seventy-six cases for the production of analgesia and anesthesia in obstetrics. We believe that Amytal can be administered intravenously and intramuscularly with safety by observing ordinary precautions and keeping within the limit of the maximum dose of twenty-two and one-half grains. And we can from our limited experience prophesy a wide field of usefulness for it in obstetrics, especially in the treatment of eclamptic convulsions. So far we have observed there are no obstetrical contraindications.

In all of the cases reported in this paper, the intravenous and intramuscular method has been used. In this way we were better able to make accurate observations and control the dosage.

The average interval between doses, when repeated, was two and one-half hours. The second dose was usually given intramuscularly. The average time from the first administration to delivery was three hours and fifteen minutes in the primiparae and two hours and thirty minutes in the multiparae.

The character of the contractions when in actual labor was not noticeably effected. The average duration of labor was nine hours in the multiparae and sixteen hours in the primiparae. The chief annoyance was restlessness. In five patients of the series extreme restlessness occurred to the extent that they had to be restrained during pains. Twenty were moderately agitated, twenty-four were slightly so, but all were easily controlled. In twenty-seven cases there was no restlessness.

The most striking observation was the degree of complete amnesia obtained. In this series eighty-three per cent had no recollection of anything after the first injection of Sodium Amytal, the remaining seventeen per cent were classified as partial amnesia, for the reason that they remembered some incident during the ordeal, yet remembering nothing of the baby being born. There was no relation between the degree of restlessness and the degree of amnesia.

There was no evidence that Sodium Amytal had any deleterious effect, nor were any of the babies unduly narcotised and all were able to nurse normally.

In the majority of patients, no marked change took place in the systolic or diastolic blood pressure throughout the period of anesthesia. The maternal pulse and respiration were that of normal labor. The fetal heart was unaltered in every instance prior to delivery. All mothers regained consciousness and were rational in one to six hours after delivery. All patients were enthusiastic about the relief obtained.

CONCLUSIONS

The intravenous and intramuscular administration of Sodium Amytal in our hands, when the dosage and intervals were individualized, produced satisfactory results in over ninety per cent of the cases. By this we do not claim painless childbirth, but it gives relief to the agonizing part of the ordeal of labor. In eighty-three per cent its administration resulted in complete amnesia so that after the delivery and recovery from the drug, the patients had no recollection of the period of labor. Extreme restlessness occurred in only five cases; slight to moderate restlessness occurred in over half of the patients, but was controlled in the majority of cases by morphine and scopolamine in the first stage and by gas oxygen or other inhalation anesthesia at th end of the second stage of labor.

There was no evidence of ill results to the mothers or babies.

It is evident from the number of cas reported, that no definite conclusions or opinion can be formed, but the impression is that when Sodium Amytal is used intravenously it promises to offer a worthwhile addition to the armamentarium of the obstetrician.

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DISCUSSION

DR. C. W. FRIBERG (Johnson City): Mr. President and members of the Tennessee State Medical Association: I have used sodium amytal in but a few cases, so I do not feel capable of discussing this paper. What I have used, I have used by mouth, six to nine grains, and have gotten wonderful results. The babies have responded the minute they were born. You are glad to see that after using morphine and getting a blue baby occasionally.

I enjoyed Dr. Lewis' paper very much.

DR. T. M. ROBERTS (Sweetwater): I should like to ask the essayist if in his experience he has resorted to pituitrin for completion of delivery by this method.

DR. A. L. RULE (Knoxville): The use of Sodium Amytal does not yet settle the question of relieving the pain at the time when the worst pain is usually had, and that is from the beginning of the first stage of labor until the end of the first stage of labor or the beginning of the second stage.

It is practically in the beginning of the second stage of labor when the doctor begins his administration of the Sodium Amytal. At least he says you must have three-finger dilatation, but from the time of the beginning of labor until this time is the most painful period, in my experience, of these cases.

There is no doubt but that it does do lots of good. There is no doubt that it relieves pain, and to that end he is doing wonderful work. But I should yet like to see the drug that will help these individuals in the beginning.

What are the contra-indications to the administration of this drug prior to the dilatation of three fingers? Could it not be had earlier?

I have used sodium amytal in quite a few cases. I like the administration of it and I like to give the relief, but, as I say, gentlemen, we have not yet solved that problem.

DR. J. B. McELROY (Memphis): The Chair would like to ask the essayist if he has seen any untoward effects from the administration of this hypnotic as well as other similar hypnotics. I am glad to say that I have not been granted a case in twenty years, but my attention has recently been called to the untoward effects of the administration of hypnotics of this character in the case of the woman who after sodium luminal had an exfoliative dermatitis, followed by non-suppurative meningitis, bronchopneumonia and death.

After looking up the literature upon this subject, of which there is a very good article in Ergibebnisse Der Innerin Medicin as well as by the author in Mohr and Stahlin's Handbuck der Innerin Medicin, we are told that not infrequently at autopsy the results of these hypnotics cannot be differentiated from the findings which we have in salvarsan death. I am very much interested in the question and should like to ask the essayist if he has seen in his rather extensive experience any untoward effects; but that even then does not obviate the necessity for our looking for these accidents which undoubtedly do occur.

DR. M. S. LEWIS (Closing): In regard to the use of pituitrin, we do not use pituitrin until after the third stage of labor. Most of these cases were from the obstetrical service of the Nashville General Hospital, only twenty-five or thirty of them were private cases.

The question of using Amytal earlier in labor when the cervix is one or two fingers dilated is a most important question and we are trying to ascertain at present by giving Amytal just as they go into labor to see if it interferes with the progress of labor.

As to Dr. McElroy's question, I want to say that there is danger in the use of any drug that you give intravenously, particularly the use of the barbiturates, as they are definitely known to be depressants to both the circulatory and the respiratory systems.

One should never lose sight of the fact that the dosage of anesthetic drugs is extremely variable for different individuals and that a predetermined dose based on body weight, age, or any other known factor is seldom reliable. Physical signs alone can determine the effect of these drugs and we believe that Sodium Amytal can be administered intravenously with safety by observing ordinary precautions and keeping within the limit of the maximum dose of twenty-two and one-half grains. The rate of administration is most important and it should never exceed one cubic centimeter per minute. This was brought to our attention very strikingly in our first case of eclampsia when the intern on our service injected the whole ten cubic centimeters of Amytal in the course of three to five minutes. The patient immediately went into both cardiac and respiratory collapse; and only with heroic treatment were we able to resuscitate her.

Dr. DeLee has recently stated that the barbiturates have a definite place in obstetrics and with further experimentation we may have in the near future something of great value.

We have used Sodium Amytal in twenty-two cases of eclamptic convulsions in the past eighteen months without a repetition of convulsions in any of them. We believe, at present, it is the drug "par excellence" for the control of convulsions. Since using it in eclampsia we have discontinued the use of morphia and magnesium sulphate depending entirely on Amytal for the control of convulsions. Maybe with our twenty-third case we may have many convulsions after the initial dose, but at present we are tickled to death with our results.

SOME FACTS AND PROBLEMS ASSOCIATED WITH BILIARY TRACT DISEASE*

E. G. Wood, M.D., Knoxville

THE saying that "Truth is an ever-changing factor" has not been better exemplified in the last few years than that pertaining to biliary tract disease and especially to the disorder of chronic cholecystitis. The truth has necessarily been modified by new evidence. Prior to about thirty years ago our investigations were limited mostly to post-mortem examinations. Then for a good many years four-fifths of the gall bladder diagnoses made were cholelithiasis and the other one-fifth comprised empyema and perforation of the gall bladder and mistakes in diagnosis.

Today many believe that chronic biliary tract disease is the most frequent symptom producing abdominal disturbance. The advent of asepsis and the perfection of surgical technique has enabled the surgeon to open the abdomen and study the disease processes in the living. Until recently we thought we had about mastered the subject, but more accurate observations and the correlation of a great wealth of statistics have proven that much yet is to be learned. Not only has duodenal biliary drainage, as advocated by Lyon, been a definite step forward in our appreciation of biliary tract dysfunction, but also liver function tests of recent development have been of much assistance, particularly in determining injury to the hepatic cells. I should say one of the most notable advances in medicine in the past decade has been that of cholecystography which has meant so much in the diagnosis of gall bladder disturbances. Today a reasonably accurate diagnosis of biliary tract disease can be made, and the question of therapy can be considered with much greater confidence than formerly, when we had to resort to exploration in order to determine certain definite diagnoses.

In 1924, when Graham & Cole published their work on cholecystography they brought out a technique that was promptly and widely accepted. As a result the liver and gall bladder became the subject of widespread investigation and many discoveries concerning their physiology and function were soon made. The old idea that the gall bladder was merely a reservoir for the storage of bile between demands was no longer tenable. Several functions have been ascribed to it. Two of them are now fairly well understood and their importance realized. The normal gall bladder certainly has as one function the concentration of bile. This is done by absorption, and normally the liver bile is concentrated twenty to thirty times by the gall bladder. This function of absorption is very important, and so long as the gall bladder is capable of this duty, its removal causes distress, and here let me stress, as was pointed out by Dr. Chas. Mayo, the necessity of an excessive blood supply to this small sac is very evident, for in contrast to the liver lobes, the gall bladder is supplied directly by the cystic artery, of which the arterial tension is that of the circulation, whereas that of the arteries of the liver is low.

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16.

The mucous membrane of the gall bladder, secreting colloid mucous, maintains the solvency of bile salts and pigment; therefore anything which would add to the function of filtration of the gall bladder or which would reduce its blood supply would contribute to failure of maintenance of solvency, and sediment would appear—formation of gall stones.

Inasmuch as the gall bladder cannot get any bile without closure of the papilla of the common bile-duct, which in turn forces the bile backward through the cystic duct, conditions in the intestine might arise which would add to spasm of the sphincter of Oddi and would increase the work of filtration in the gall bladder.

Where the function of absorption has been gradually lost by disease, the liver and its ducts have as gradually established compensation. This might be offered as an explanation why patients with a very bad gall bladder do better after cholecystectomy than do those whose involvement is less marked, such compensation not having been established.

Another important function of the gall bladder is contractility whereby it is able to empty itself on demand. There are several theories as to how this is done and it seems there are several factors concerned. As long as there is a fibro-muscular coat in the histological makeup of the gall bladder wall, it seems reasonable to believe that this musculature has the usual function of muscle, that is contractility. The work of Ivy and Oldberg in that they apparently isolated a hormone, which they called cholecystokonine, whose general action might be compared to secretion, may excite the gall bladder to empty itself when bile is needed for duodenal admixture. Again the Lyon method of duodenal drainage is based on the law of contrary innervation offered by Meltzer. This law may be a factor in the emptying of the gall bladder.

The methods of Graham and his co-workers on cholecystography have undergone many improvements and modifications since its introduction some six years ago, and has obviously merited the conceptions which the authors originally entertained for it as evidenced particularly by its widespread adoption throughout the entire world. There still exists, however, in the minds of many, unfortuante misconceptions as to the nature of the test itself; and to all to whom this is not clear, I would recommend the careful reading of Graham's article on this particular phase of the subject, which appeared in the January, 1929, issue of the Southern Medical Journal. Remember again that cholecystography is primarily a study of both liver and, particularly, gall bladder functioning, rather than a test of liver or gall bladder disease.

The following summary by Kirklin are outstanding features of cholecystography today:

1. Notwithstanding its brief history, cholecystography has attained unusually wide vogue and has achieved a diagnostic excellence equal or superior to that of accepted tests for other diseases.

2. The method is so efficient that further improvement will only be slowly gained, probably in new compounds and improved technique.

3. Like all laboratory tests the greatest misfortune to cholecystography has been, not the scant criticism it has received, but the tendency to credit it with infallibility and to depend supinely on its verdicts.

4. Again in spite of its general efficiency, it has its limitations, and is subject to errors of interpretation, many of which will probably continue inevitable. Some may say it will be made a pretext for unwarranted operations, yet it is equally objectionable to make a normal cholecystogram the pretext for failure to operate when operation is indicated, and the negative diagnoses furnish most errors.

5. A keener realization that diagnosis of biliary tract disease is ultimately a function of the clinician, and it is his duty to correlate the data obtained with his own information, weigh the probabilities of dis-

ease, estimate its gravity, and recommend appropriate treatment.

So diagnosis of biliary tract disease, I would say, rests, first in importance on the history, second, on clinical evidence and physical examination, and third, on x-ray findings and use of the duodenal tube.

The history of these cases is punctuated usually with acute attacks, which may be so mild as to suggest merely localization in the gall bladder region, or so severe as to demand immediate surgery. The history of gall bladder disease, however, unlike that of gastric disease, reveals symptoms which show no definite relationship to the ingestion of food. They may occur during some period in the gastric digestive cycle. More frequently they are likely to occur after the gastric cycle is completed. Many gall stone attacks awake the patient at night, coming very suddenly and without warning. In the physical examination it is well to bear in mind that the position of the gall bladder varies considerably, as does the appendix. This is often verified by cholecystography. From the use of the duodenal tube and the collecting of first bile, light in color (a) from the common duct, and from the second dark (b) and coming from the gall bladder, and from the third still lighter than the first (c) and coming from the hepatic ducts, these being examined separately for organisms, cells and cholesterol crystals, we are aided in determining the contents and state of the gall bladder.

Still another factor may be mentioned, that of estimation of serum bilirubin in determining the presence or absence of latent jaundice. Blood serum only contains from .5 mg. to 1 mg. of bilirubin in each 100 c.c. of blood. Accurate determinations in contemplated surgery, administration of calcium if need be in like amount of salts.

The Vanden Berg direct and indirect reactions differentiate hemolytic from intrahepatic and obstructive jaundice, but they *do not tell us whether the jaundice is due to a faulty liver or an obstruction to the ducts,* so our main reliance except the Graham Cole in the diagnosis of biliary tract disease still rests upon the history and clinical findings.

If, from the standpoint of these clinical findings and investigations, it is apparent that the gall bladder is diseased or calculi are present, the next important question is whether or not surgical or medical treatment is the method of choice. In the presence of acute inflammations which are liable to result in empyema or even gangrene, surgery is imperative. I also feel that all forms of gall bladder disease that are recurrent, which fail to respond to treatment, which show gross distortion on cholecystography, which show persistent physical signs and in which there is unquestioned evidence of organic alteration, these should be submitted to surgical exploration. On the other hand in a great number of cases in which there is little localization, reflex digestive disturbances, occasional attacks and evidences that the gall bladder is neither deformed from an anatomic viewpoint, nor crippled in function, medical treatment should at least be tried. And here it is that most is gained by dietary regime. Knowing that the cholesterol stone, in all probability, has its origin in a high cholesterol or high-fat dietary, naturally one must insist on a low-cholesterol diet so as to reduce the blood cholesterol. Now on the other hand all studies have shown that the most powerful stimulus to gall bladder emptying is undoubtedly fat found most abundantly in the yolk of egg, olive oil, butter, bacon and many other foods. So such a diet must not be given in cases of inflammation; but such a diet may prove most beneficial, and I believe probably just as much so as drainage with tube and installation of magnesium sulphate, in those old low grade atonic stagnant gall bladders.

In our enthusiasm to clear up the many puzzling problems in the diagnosis, we must not neglect the most important feature, prophylaxis. The saying that " a gall bladder once diseased is always diseased" may be entirely correct and nothing short of removal may effect a cure, and sad as it is how often does a cholecystectomy fail to relieve the patient of all his former symptoms. This state of affairs now leads us to consider another great and real problem associated with biliary tract disease, for this may only be the end result. Almost always it means pathology elsewhere, and when you have gall bladder disease you usually have colon disease, liver disease and often pancreatic disease. Our attention is called to colonic disease by Dr. Lakey wherein he shows that unnecessary surgery may be done for gall bladder disease because of functional disease of the colon. He states this to be true for two reasons:

1. Because the pain and distress which sometimes accompany functional disease of the colon simulates biliary tract disease.

2. Because colonic irritability or instability is sometimes attended by a failure of the gall bladder to fill with the Graham test. He further reports that in a recent study of a series of 65 such cases 44 per cent of these gall bladders filled normally after five to ten days of bowel management. Again gall bladder disease can as effectively serve as a focus of infection as do tonsils, teeth, sinuses, and prostate. Dr. Martin Rehfuss says it causes myocardial manifestations in almost one-half of all chronic cases; in less than that it causes joint disturbances, and nearly all of those sufferers have nervous disturbances. Then it is fairly clear why the removal of the organ does not cause this sequential pathology to disappear. Surely then in the light of these facts will we be more awake to the early necessity of surgery in these cases, before still more general damage is widespread. We will not enter here into a discussion of cholecystectomy versus cholecystostomy, for each has its indications and contraindications and very often when we would really prefer to do a tectomy, for the safety of the patients at the time, we are of necessity forced to do only a drainage. I feel that the embarrassment of a second operation to the surgeon should be tolerated, rather than allow his egotism and poor judgment to be followed by a catastrophe.

This now brings to mind one more surgical problem and a very important one in that a search of the literature fails to offer any definite clearing of the way, and though we may be able to recognize both primary and residual hepatitis clinically, we do not have a standardized simple test for liver function, such as we have for example for kidney function, of whose efficiency we have no better example than the present low mortality following the removal of the large prostate. We find listed a rather large percentage of mortalities under a heading, "High temperature and rapid deaths" following biliary tract surgery. They are characterized chiefly by a rapid, steady rise in temperature, beginning often within six to twelve hours after operation, seldom ever having any remissions and death ensues within thirty-six to forty-eight hours. It seems to simulate postoperative hyperthyroidism with goiter surgery. Do these patients die from absorption of diseased chemically altered liver cells or toxic bile? Is it altered cholesterin metabolism suggested by some? Or is it injury to the nervous mechanism of the liver as suggested by others? Stanton reports a similar picture in a traumatic rent in the dome of the liver and autopsy here as well as in others of his cases did not show the expected degree of cholangitis. Dr. Crile has shown a very close interrelationship between the thyroid, the adrenals and the liver. The complex relations of the liver to states of shock and to basal metabolisms have been studied by many investigators. The blood chemistry investigations now being made on this class of patients by Stanton may throw some light on the nature of the condition.

So we see all the problems in connection with biliary tract disease and its surgery have not been definitely settled. Surgery of whatever type often leaves residual changes which cannot be corrected. If we were built on the plan of an automobile and a new part could be substituted when one has been badly damaged or worn out our problems would be simple. Often when the best surgery has been done there remains residual phenomena, because there is a change in some finely correlated or well adjusted physiological mechanism.

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DISCUSSION

DR. E. DUNBAR NEWELL (Chattanooga): From my point of view I think Dr. Wood has given us a most excellent paper, conservative, sensible, practical.

You all remember that about six or seven years ago if you visited the clinics of this country, the surgeons were removing gall bladders apparently almost indiscriminately. Two or three years ago they began to get far more conservative. They would open up, they would inspect the liver, the stomach, the other organs most carefully to see if there was any pathology other than the gall bladder, and they would hesitate about removing the gall bladder. We knew that that hesitancy meant that they were getting failures, because we all know that even in cholecystectomy, in frank cases, about twenty-five per cent of the cases do not get complete relief. In the old days with drainage, cholecystostomy, we know that only about fifty per cent got complete relief.

I think the most important part about the subject is diagnosis. Dr. Wood has struck the keynote. We first thought when the dye test came out that it would relieve us of the responsibility of making a diagnosis. It does not relieve us of the responsibility of making a diagnosis, and I fully agree with Dr. Wood that it should come at least third in the data toward making a definite diagnosis. I have had quite considerable experience along this line, and have been humiliated by my failures because I depended more upon the dye than I should have done. I have never allowed a laboratory to make diagnoses for me; I have always felt that the dog should do his own wagging.

I do not think that anything equals a carefully taken history. In diseases of the gall bladder, the biliary tract, I think the history is far more important to me than even the clinical findings. Next to the history I think the clinical findings come second, and third the dye test.

Just yesterday I had notification of a case operated upon in San Antonio, Texas, much to my humiliation a case that I had operated upon eight years ago and removed eight stones from the common duct and the gall bladder. She remained well for two or three years. I must admit that I did not go as carefully into the history of that case as I should have done, but I allowed the laboratory somewhat to interpret my findings for me. I did not see evidence enough to do a second operation, and the patient did not seem to be sick enough. She was not having intense pain; in fact, she was not having pain, but discomfort. Yesterday I had a telegram saying that the patient was operated on and two stones found in the common duct, although laboratory findings were negative.

Just a few days previous to that I had a case that had been worked up more carefully. The patient gave a clinical history of gall stones, there was no question about that. The clinical findings were negative, but the clinical history was decidedly that of gall stones. The laboratory findings were absolutely negative, but the patient, as they usually do, and fortunately for our sakes, makes us determine what we are going to do. This patient was having pains. They did not follow ingestion of food, but the pain would come on in the middle of the night, simulating peptic ulcer, on an empty stomach. The patient said, "Regardless of what it is, I want to be operated on, I want to get relief."

At the operation we found fourteen stones in the gall bladder.

When it comes to when to operate, I think we should be deliberate about operating unless it is a very acute case. If it is a very acute case and we think that the gall bladder condition is one that should not be removed, personally I have the courage to drain a gall bladder if I think it is dangerous to the life of the patient to remove it. I have a few times done what Denegre Martin of New Orleans has done and what Gatch has done, and that is in those severe cases of empyema where he did not dare do a cholecystectomy, he did a partial cholecystectomy and a chemical cholecystectomy, that is burning out the gall bladder (Martin does that) with pure carbolic acid alcohol, and Gatch does it with pure iodin. That is a very satisfactory thing in an emergency, and personally I have not had to reoperate on those cases. If you get a case you are in doubt about, that is a simple procedure and it may save you a lot of trouble.

I think, in conclusion, that the most important thing to do in these cases is to study the cases personally, carefully, and if the patient continues to have pain, whether the pain is on an empty stomach or not, and these attacks of pain come on periodically and at other times the patient feels well, then there is a very positive indication, to my mind, for surgery. We may not completely relieve the patient, she may have other troubles, but nevertheless the patient will get far more relief from the operation than she had without the operation. It has been my experience that these patients are very grateful patients, and even if they have some discomfort following, they do not have the same amount of discomfort they had before operation.

DR. J. J. WALLER (Oliver Springs): I am glad that the internists and the surgeons are getting together on a common ground in handling these cases of gall stones and gall bladder infections and cholangitis. I have been somewhat disgusted with some of the surgeons wanting to operate on all of these cases, claiming there is no other treatment. We frankly concede that surgery has its place, that there is a certain type of these gall bladders that need surgery.

I am also glad of another thing, that the surgeons have at last found out that surgery doesn't, every time, relieve all the complaints.

By the way, Dr. Wood, I want to say to you right here that your paper has come nearer touching all points of a practical nature on this subject than I have ever heard. You have not claimed to cure everything from a surgical standpoint, neither do the medical men, but we do claim there is a field for surgery. If you have a gall bladder full of stones like a sack of marbles, it is foolish to think of getting them out except through surgery. On the other hand, it is dangerous to be operating on gall bladders promiscuously when there is nothing but infection.

You medical men want something that you can do at home. Maybe you have a patient who is not suitable for the risk of operation; maybe they have not the money to go to the hospital; they may be averse to an operation; they are suffering and they want you to relieve them with some kind of medical treatment. That is what I want to suggest to this Association here today. We have some things that the general medical man can do out in the sticks and get by with very well until the proper opportunity and everything is right for operation.

Suppose you have a gall bladder infection. If you can get drainage to that gall bladder, that is what you want; it relieves pain. Now for a few medical suggestions. I have found that if you will mix genuine oil of wintergreen with olive oil and give it in suitable doses it is very good to relieve that distressing pain. Sometimes you have to resort to morphine to give relief; may add a little chloroform to the dose. I picked up an old prescription out in the swamps of Louisiana. If you want to get a good, practical prescription, get an old practitioner out in the country who doesn't know very much about a hospital, and he will give you something, and your patient will get well. Here it is: Make a saturated solution of common salts, Epsom salts; put three ounces of that into a four-ounce bottle and fill up the bottle with glycerin and shake it together. Lay the patient on his right side, give him a tablespoon full of that every thirty minutes until he has taken three doses, and see if you don't get drainage to the gall bladder. Many people will take that who won't let you use a duodenal tube. However, I am a kind of tube man in this class of cases. That tube that has been scoffed at so much by the surgeons has its place. My experience in using it (it is not difficult after you know how) is that you can relieve a great many with the duodenal tube that never say anything more about their gall bladders; in fact, I have relieved quite a number. I don't know whether they are well or not, and don't care. Along these lines you get some splendid relief. Many have gall stones that give no symptoms.

Suppose you have a kind of septic case and the liver is not acting well and the bile ducts are all clogged up. I will give you another prescription that you can use. Take two grains of resin of podophyllin and put it in about four ounces of fluid extract of echinacea. Give the patient a teaspoonful three times a day after meals, and he will get along all right.

I will give you another prescription. I have just lately got onto it, and I have become exceedingly cranky about it. Dissolve eight grains of crystal iodin in a pound of mineral oil. If you know how to get it together, all right; if not, you come around and I'll tell you how to get it together so it will mix and stand up. Give a tablespoon of that before each meal and you will get a laxative effect and in some mysterious way you get an alterative effect from your iodin, and the patient will get better and hush.

Be careful about these operations, as they may die without any seeming reasonable excuse. Also, better test out and be sure some luetic trouble is not back of it all.

DR. CURRAN POPE (Louisville, Ky.): Mr. President and Gentlemen of the Tennessee State Medical Association: I wish to thank you for the privilege of the floor and for the opportunity of talking to you this afternoon, particularly in view of the fact that I want to bring to you some things that we have been trying lately for these cases that at times are the bete noire of medicine.

I will ask you to assume that in the Hospital and Clinic over which I preside in Louisville, in the cases which I mention now we have eliminated entirely the question of surgery; they are medical cases and not surgical cases. They are the cases that are chronic in character, have lasted a long time, and which Dr. Wood so nicely described as being stagnant. That is a very good word.

When we have decided that we have a medical case to treat, we try two things. If you have made a complete clinical examination, you will have learned as to whether the individual has a markedly spastic colon or spasticity in the entire gastro-intestinal tract. We give that patient sedatives. If we find the patient is non-spastic, we give oleic acid, which is best given in the form of a preparation known as exicol. We then introduce the tube and drain, one, two or three times until we feel satisfied that we can open the gall bladder and drain it by these measures. The reason for that is that in the treatment I am going to suggest we had, at the start, two or three cases with temperature and upset, so that we had to find some way in which to avoid that.

We know that heating beyond a certain point will kill any micro-organism. We know very definitely the temperature at which the gonococcus is killed, and we know that other bacteria are killed at other temperatures. In these old chronic cases, as the Doctor has mentioned, we may have the liver, its ducts, the gall bladder, the pancreas, the duodenum, and the colon, especially the cecum and the hepatic flexure, involved. The idea is to raise the temperature of that section of the body high above the normal. We do this with a high frequency current, giving anywhere from 4,000 to 6,000 milliamperes, gradually raising the body temperature to 100, 102, 103 or higher if there be need to do so.

You will be surprised to see what an effect it will have upon a gall bladder. It will change clear bile into a thick, heavy bile with a great deal of pus and mucus and other detritus in it. I wish to say that if you have had any duration of practice you know many cases that have been more or less chronically sick that have recovered after some severe infection in which the temperature was high. In general hyperpyrexia, we raise it up to the point of 103 to 105.

There are some objections, of course, to these measures. In the first place, they are strictly hospital. They take from three to five hours for each treatment. A nurse must be in attendance the entire time, and a doctor always handy. During this time the pulse, temperature and respiration must be taken at least every half hour, and at the start, better every quarter hour.

We have found that this treatment is exceptionally helpful in a great many cases of arthritis. Local hyperthermia with general hyperpyrexia has, in our hands, done more, with drainage, diet, and medical treatment, to bring about a restoration of these cases to health and usefulness than anything else.

I commenced this treatment some three or four years ago and am still trying to work it out. It is a difficult thing. We have nothing in the world to guide us and we have to go very slowly, but if any of you are interested in it I think you will find that it will repay you better than almost any work that you can do.

Hyperpyrexia is going to occupy, in my opinion, a very prominent part in the therapy of the future. We have seen at my hospital, which is devoted to neurology and internal medicine, chronic infections of the gastro-intestinal tract, arthritis, tabes, all forms of neural lues, even cases of multiple sclerosis, markedly benefitted. I have today a rare group of three women who have suffered from tabes and who are what they call well except that they have lost knee-jerks, and Argyll-Robertson pupils. The localization of the hyperthermia in the case of tabes, was in the spine and not in the abdomen.

I recommend to you to investigate this treatment. It is worth your while. We try to carry out, Dr. Wood, all the things that you suggested before we pronounce a case a chronic medical gall bladder case, and then when we do we feel that we can hold out to these patients every promise of relief. It is astonishing, sometimes, to see the toxic, disappointed, upset individual get prompt relief within a period of three or four weeks.

DR. E. G. WOOD (Closing): If you will pardon me, I will take the discussions in reverse order and speak to Dr. Pope's discussion first. That therapy is all new to me. What diathermy will do in these chronic gall bladders, if it does what Dr. Pope says, so good so far, but today if you will consider the age incidence of cholelithiasis and compare it with that of cholecystitis, you will find that the former usually comes from the forty-fifth to, say, the sixtieth year of life, and, incidentally, many times in the female, the ratio probably being four to one as compared with the male sex, while the disease entity known as cholecystitis comes in that age period from the thirtieth to the forty-fifth year of life. That being the case (and that question of age incidence is to be considered), do not forget that these cases that you treat lightly during this first age incidence may be that same class of cases that come into your hands or some other physician's hands in this later age incidence, with much more pathology than they had in the former age period. That being the case, we should be more careful and try to correct the pathology in the early age incidence rather than this extreme pathology and cholelithiasis in the second age group, because these other dysfunctions of which I spoke, namely, colon disease and tube disease and pancreatic disease, are more likely to be there to contend with in your second age period.

Though I did not mention it in the paper, let me say one word here about conservation of gall bladders in jaundiced cases or in cases that show neighborhood possibility of malignancy. Do not remove them, do not do an ectomy upon those cases, even though it may be comparatively easy, because you may want that gall bladder for an anastomosis later and it may prove life-saving, or at least it may give the patient a longer lease on life if you can go into the jaundiced patient or the malignant patient and do a cholecystoduodenostomy or jejunostomy or gastrostomy.

A word about Dr. Waller's medication. It is true that I said there is a class of these patients that certainly are medical and should be treated medically, and except in that line of cases that I mentioned where surgery is imperative, I believe they should be treated with dietary and medical measures.

I must admit that though the prescriptions the Doctor speaks of contain a high percentage of fats, his olive oil with his oil of wintergreen gives you fat, his glycerin with his magnesium sulphate gives you high fat, I still say that I believe in the proper case a high fat dietary is probably worth as much as medication.

Dr. Newell, I am certainly much obliged to you for your frank discussion and your interesting case reports. I am glad to hear you say that we have gotten away from the promiscuous ectomies that we tried to do five or six years ago. When the question of ectomy and ostomy was being debated over the country and men claimed that one was as safe as the other, they didn't mean it and it is not as safe. The reason for the high mortality today in gall bladder disease in drainage cases in comparison with the mortality in the ectomy cases can be explained by this fact, that so often the bad case, the far advanced, diseased gall bladder has to be drained. Certainly there would be high mortality if you took that gall bladder out. We can't remove that gall bladder and save the patient. We may drain that gall bladder and save the patient, but we may lose the patient if we merely drain it. There was the argument for the man who said it was just as safe to do an ectomy as it was to do a drainage, because of the type of patient that had to be drained of necessity.

I was glad to hear Dr. Newell say that the most important subject of the whole discussion of biliary tract disease is the diagnosis, and that was one point that I tried to emphasize in my paper. I also tried to point out to you that the history, as Dr. Newell says, stands first, the physical examination and clinical findings second, and cholecystography, though some men claim as high as 98 per cent perfection for it, should rank possibly third, I think.

Another question of when to operate. In the mild gall bladder case, with not such a high blood count, not such a high differential, tide that patient over. You don't have to hurry to do that gall bladder. If you hurry too much today with that patient you may have to do a drainage. If you tide him over with the diet and rest in bed and plenty of morphia, you may pull him through and at the next chance do an ectomy and remove your trouble.

I wish to thank you for your discussion, gentlemen, and the others for their kind attention.

STANDARDIZATION WITH X-RAY VERSUS DOGMATISM IN THE DIAGNOSIS OF SINUS DISEASE*

CHAS. D. BLASSINGAME, M.D., F.A.C.S., Memphis

A ROUTINE x-ray interpretation should be made in every sinus examination. Gross sinus pathology in a relatively large number of patients, examined during the past year, which was not otherwise indicated except by roentogengraphy, has led me to this conclusion.

When it is not done routinely, two things will happen. First, many important sinus conditions will be overlooked that would be discovered, if pictures were made routinely. Second, there will never be a standardization of ideas, either of the individual practitioner or of the group of men doing sinus work, unless pictures are taken routinely.

To illustrate the truth of the first statement, i.e., that many important sinus conditions will be overlooked that would be discovered, if sinus pictures were not made routinely, and also that many cases will be presumed to be sinus disease when they are not, I wish to report a few cases and show the pictures made of them, in which the pictures demonstrate some nice discriminations in diagnosis.

Case No. 1. Mrs. W. L. M. Had formerly been treated for tuberculosis and was under the care of the chest specialist, who was uncertain as to whether the trouble in her chest was due to a recurrence of the tubercular activity or was secondary to some upper respiratory infection. Pictures of her antra had been made and were negative. We made pictures of her sphenoids and posterior ethmoids, which as you see, are entirely negative.

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*Read before the Eye, Ear, Nose and Throat Section, Tennessee State Medical Association, Knoxville, April 14, 15, 1931.

Case No. 2. B. H. An unmarried woman, 35 years of age, complains of headache, toxic in type. She had been diagnosed as pulmonary tuberculosis and was sent to me for examination of the sinuses. I was able to report that she had a rather uniform thickening of the membrane of her right antrum of about one-fourth inch. Also, that the apparent spots of cloudiness in the frontal sinuses when looked at on the flat plate were definitely shown to be shadows of the torcula on the back of the skull, when looked at stereoscopically.

Case No. 3. T. F. Boy, age 11. Has a marked swelling of a lymph node in the body of the left parotid gland for about 10 days. There is a moderate amount of soreness and tenderness in the swelling. Gives a history of two previous attacks.

Ear, nose and throat examination is negative. General physical examination is negative.

X-ray of sinuses shows the left antrum very cloudy. Following surgical drainage of the antrum the swollen gland promptly subsided.

Case No. 4. D. C. K. Man, 45 years of age, has complained of very severe earache, in right ear, five days. The ear began to discharge soon after the pain started and has continued to discharge freely. The pain is growing worse.

X-ray picture shows right mastoid cloudy. X-ray picture of sinuses shows both antra lined with a thick membrane. There was no evidence of pus or an acute inflammation in the sinuses. Transillumination would have shown these antra to be cloudy. We were convinced that treatment of this man's sinuses offered no relief from his ear trouble as might be expected, in an acute sinusitis. During his stay in the hospital, over night three hypodermics of pantapon failed to give him relief from the mastoid pain. Operation on his mastoid on the sixth day was performed. A large amount of bloody pus throughout all the mastoid cells and his prompt recovery without any acute sinus symptoms bore evidence that the sole trouble at that time was his mastoid infection. He still has his nasal pathology.

Case No. 5. Mrs. P. L. R. Complains of severe frontal headaches, frequent attacks, which last a day or two at the time. Physical examination reveals nothing positively to suggest a diagnosis.

X-ray of her sinuses shows large growth in the right antrum.

Case No. 6. Mrs. E. T. R. Woman 40 years of age, a former patient, began to have severe ear ache, left ear, one week ago, following a head cold. Unable to find me she saw another man, in a short time after the onset of the ear ache. The ear drum was opened and drained for a few days and stopped draining. She continued to have pain over the side of the head corresponding to the involved ear and was told that she probably had a mastoid infection and advised to go into hospital where pictures could be made and other tests done. Seeking avoidance from a possible mastoid operation, she came to me to see what I would advise. My first advice was to x-ray pictures of her mastoids and sinuses. These pictures revealed slight cloudiness of the left mastoid and marked cloudiness of both maxillary antra. Examination of the left ear canal did not indicate a severe inflammation of the ear. After irrigating a couple of drams of pus from each antrum, there was a rapid improvement. A second irrigation of each antrum three days following the first was followed by rapid and complete recovery from all symptoms. There were only small shreds of pus in each antrum, at the second irrigation. X-ray of the sinuses, in this case, led to a more intelligent management than would have been possible otherwise.

Case No. 7. B. F. McC. A man about 50 years of age had a right upper molar extracted which left a hole into the antrum through which pus was discharging. He was sent by his dentist to have the antrum treated.

X-ray pictures of the sinuses showed all sinuses to be very cloudy. Intelligent advice could not have been given this patient in regard to safe guarding his future health without this x-ray picture.

Case No. 8. G. W. L. A man 55 years of age had suffered with bronchitis every winter for seven years. The first attack followed an attack of influenza. He was referred by a chest specialist for a nasal examination after he had failed to yield to medical treatment.

Examination of his nose and throat was practically negative. He had no nasal symptoms.

X-ray pictures of his sinuses show a uniform thickening of one-half inch of the membrane of his right antrum. The left antrum has a fibrous thickening of three-eighths of an inch and the central portion filled with polypoid tissue.

Case No. 9. Mrs. O. L. A. A lady 35 years of age has been complaining of chronic nasal catarrh for a long time. Her health has recently declined some.

Nasal examination revealed some congestion, but nothing particularly suggestive of sinus disease.

X-ray pictures revealed both antra very cloudy. The pictures show the exact thickness of the fibrous tissue and also indicates the polypoid tissue. This was in the earlier part of our work and we injected lipiodal to check on our pictures.

Case No. 10. Miss L. L. Young lady 18 years of age had severe cold followed by ear ache. We saw her one week after onset of ear ache. Pain and discharge from the ear had continued since the onset.

X-ray pictures showed cloudiness of the right mastoid and also of both antra. These pictures indicate a surgical mastoid infection on right side and empyema of both antra. Both antra were irrigated and were full of pus. A second irrigation the second day indicated a marked improvement in the sinuses and the mastoid operation was then performed. Her rapid convalescence bore witness to benefit derived from first dealing with the empyema of the antra before attacking the mastoid infection.

Parallel, but in no way connected with x-ray of sinuses, yet with some significance in standardization, I wish to show a picture taken of a patient with Gradnegro's syndrome, showing cloudiness over the space at the tip of the petrous portion of the temporal bone in the field of the abducens nerve. This patient had severe ear symptoms for three weeks before coming to me. Four days previous to the examination he developed double vision when looking toward the involved side. He complained of severe pain in the eye on the side of the involved ear. Examination showed that he had a severe mastoid infection in the side corresponding to his pain. Also there was complete paralysis of the external rectus muscle of the eye of the involved side. As far as we know this is the only picture that indicates the pathology causing the Gradinegro's syndrome.

The statement that there can be no standardization of ideas, either individually or collectively, without routine x-ray pictures, I believe can be easily proven. In the first place, there is a hazard in any diagnosis of sinus disease made without any known fact as to the condition within the sinus. No fact can be known about the condition within a sinus except by inference. Inferences from shadows in the x-ray picture are reliable and will be uniform only when there is an intelligent appreciation of all the factors concerned in producing the shadows. It implies a knowledge of pathology and the ability to discriminate between one shadow as compared with another. When this power of discrimination in the meaning of shadows becomes common among otolaryngologists there will be a greater uniformity in our diagnosis.

Proper x-ray interpretations of sinus pathology give us reliable inferences and form the only foundation upon which standardization of diagnosis of sinus disease can be placed. Our specialty frequently stands indicted by statements of patients like this. "I was examined by every nose and throat specialist in the city and was given a different opinion by each one." Too often the trouble is that there is no known fact upon which to base an opinion. The patient will vary his description of his symptoms and the rhinoscopic examination may be inconclusive. For so many men to presume to give an opinion without some basis such as an x-ray interpretation, upon which there is some agreement, is a travesty upon our specialty.

It is not the purpose of this paper to describe any method of x-ray interpretation. It is absolutely necessary that the rhinologist do his own interpreting whether he make his own pictures or some one else makes them for him. Nothing is said here to disparage the work of the roentgenologist, whose knowledge of basic principles in x-ray are indispensable to us. If the rhinologist does not appreciate the factors that make a picture, he is not sufficiently impressed with what it shows to deal with it adequately.

I do not say that the rhinologist should make his own pictures, but the fact that he does not make them does not alter the statement that he should study the factors in making them sufficiently to thoroughly appreciate them. The greatest hindrance the rhinologist encounters in studying his pictures, is the disposition of many roentgenologists to give small aid and comfort. In fact many roentgenologists resent such an effort as an encroachment upon their sacred domain. That attitude is prompted by the falsity of the premise that the rhinologist discredits the x-ray man's interpretation of his own pictures. He fails to comprehend that the rhinologist needs to fortify his otherwise diagnostic skill by the acquisition of the facts revealed by the x-ray picture, by an act of his own judgment. Things that are told us are not nearly so convincing as the things we see. If we will all adopt the same means of arriving at our diagnosis, we can expect uniformity. If we will adopt and adequately use the correct means of diagnosis, we will have standardization.

DISCUSSION

DR. SAMUEL H. LONG (Chattanooga): There is no question but that x-ray is a great aid in diagnosis of sinus conditions, but we must remember that the x-ray report and plate are to be regarded as only a link in a chain of clinical findings.

It has been my experience that in say two given cases with practically the same amount of x-ray evidence of sinus involvement, operation may prove one greatly involved and the other only to a slight extent or not at all.

X-ray does not lie, but after all it is only a shadow and many factors are to be considered in its reading. X-ray plates should certainly be made in all cases of sinus disease, preferably by the same roentgenologist. Many mistakes will be prevented by routine x-ray diagnosis.

The one thought I wish to impress is that although the value of x-ray should not be minimized the other clinical findings and methods should not be neglected.

The cases presented by Dr. Blassingames are indeed interesting and certainly bring out the value of routine x-ray in sinus disease. At Dr. Blassingame's invitation I am presenting a case of sinus disease with rather peculiar symptoms.

Mr. R. P. B. Age 44 years. Male. August, 1926. Three months ago had a convulsion while in barber shop, eight convulsions between 8:00 a. m. and 10:00 a. m. Next morning patient said he was unconscious for three days. Was in bed for one month and did no work for another month. Two weeks ago had a convulsion at 3:00 a. m. while asleep. Convulsions every day or two since.

Patient referred to me by Dr. Thomas for a routine eye, ear, nose and throat examination as part of a general physical examination.

I found septum high deflection to right not obstructing. Push middle meatus left. Transillumination showed left antrum dark.

X-ray report by Dr. Marchbanks:

The left antrum and ethmoids are cloudy and apparently contain fluid or should at intervals. Balance of sinuses clear, the left middle turbinate obstructing drainage of ethmoid.

I opened the antrum evacuating large amount of foul pus, removed anterior one third middle turbinate, opened anterior ethmoid cells.

He had no symptoms for about one year, when he began to have spells of unconsciousness with mild convulsive movements lasting a few minutes, occurring every two or three weeks. I then removed his tonsils, did a radical (Caldwell-Luc) antrum. Has been free of symptoms since.

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EDITORIAL

A BRIEF STATEMENT OF A NEW PLAN OF BENEFITS FOR VETERANS OF THE WORLD WAR

(*A Disability Insurance Policy*)

INTRODUCTION

When the world war ended there were many soldiers who had been disabled on account of service. The government constructed hospitals for the care of all such men. In a few years a large per cent of the beds in these hospitals were vacant by reason of the recovery or death of the patients.

In 1924 an amendment to the World War Veteran's Act was passed by Congress (Paragraph 202-10), which provided in effect that veterans with disabilities not due to service would be admitted to veterans' hospitals so long as beds were available. Since this amendment was passed several millions of dollars have been appropriated for the erection of additional veteran's hospitals, and the number of veterans admitted with disabilities not of service origin has increased to the point that they constitute seventy per cent of all admissions to veteran's hospitals.

Government hospitals are expensive. They are not accessible to a vast majority of veterans, and if this particular benefit is ever brought effectively into the reach of all veterans, additional hospitals must be built in such number and size as to accommodate all the hospital needs of all the veterans. It is estimated that 103,000 additional beds would be needed. There are now fifty-three hospitals with a capacity of 25,920 beds.

The carrying out of such a hospital program would require years of time and untold millions of money, and when completed would be of no service to the veteran with a disability which does not require hospitalization.

DISABILITY INSURANCE PLAN

The *new plan of benefits* proposed for veterans is as follows:

That the government issue to each veteran, without cost, a disability insurance policy with two benefit provisions:

(a) A cash benefit payable during any period of total disability.

(b) A hospital benefit payable during any period of confinement in a hospital.

These benefits to be payable for non-service connected disabilities.

The sum of $20.00 per week has been suggested as the amount of the weekly cash benefit, and $20.00 per week as the amount of the hospital benefit.

The benefits to the veteran under this insurance plan are as follows:

(a) He draws a cash benefit when totally disabled from any cause, regardless of whether he is at home or in the hospital.

(b) He would draw his hospital benefit when confined in a hospital, in addition to his cash benefit.

(c) The cash benefit would provide a support for his family during a hospital confinement.

(d) The veteran would select his doctor and his hospital.

(e) The benefit would be equally available to all veterans the moment the law is passed.

The following are the benefits to veterans under the *hospital plan*:

(1) A bed in a veterans' hospital provided (a) a bed is available, and provided (b) the disability requires hospitalization, and provided (c) the condition of the veteran will permit of the delay and transportation incident to admission to a government hospital, and provided (d) the veteran is willing to be separated from his family during such an illness.

ADVANTAGES OF THE INSURANCE PLAN OVER THE HOSPITAL PLAN OF BENEFITS

Under the insurance plan, the benefit is available to every veteran the moment it is enacted into a law.

Under the hospital plan the benefits will not be available to every veteran until a sufficient number of hospitals have been built to accommodate the needs of all the veterans.

The insurance plan is of equal benefit to every veteran.

The hospital benefit is of unequal benefit to veterans because the benefits are available to veterans who live near a hospital and are not available to the veterans who live at a distance.

Under the insurance plan the veteran who is disabled draws a cash benefit when disabled from a cause which does not require hospitalization.

The hospital plan is of benefit only to the veteran whose condition requires hospitalization.

Under the insurance plan the family of the veteran would receive the weekly cash benefit during the hospital confinement of the veteran.

Under the hospital plan the family of the veteran receives no government benefit. If the veteran is indigent his family is dependent on community charity.

The insurance plan would be economical to administer in that government organizations already in existence could administer the law and the veterans would receive the full benefit of every dollar spent by the government.

Under the hospital plan of benefits most of the money would go into construction costs, the cost of equipment, the cost of administration, etc.

Under the insurance plan of benefits when the last need of the last veteran has been served, the plan of service will have been completed and there are no buildings and equipment to be abandoned.

Under the hospital plan of benefits the hospitals would remain open at enormous cost without patients, or the buildings and equipment would be abandoned and the personnel disbanded.

THE MEDICAL PRACTICE ACTS

A large number of doctors misunderstand the purpose of the Medical Practice Acts. This is made evident to us by the communications which come to this office concerning violations, quacks, etc.

The Medical Practice Acts were written for the purpose of protecting the public. They were written for the purpose of giving the public reasonable protection against crooks and quackery in medicine. They were never written for the purpose of protecting doctors against the inroads of quacks.

When a lay person elects to take some patent medicine in the treatment of an ailment he is exercising the privileges of his freedom. Such a practice in no way injures the medical profession. If penalty is to be paid the person who takes the nostrum pays the penalty.

At frequent intervals quackery springs up and fools the public for awhile. There are quacks in all lines. They sell fictitious stocks. They sell fake remedies. They sometimes sell themselves. They prosper for awhile and then disappear.

It was Barnum who said "a sucker is born every minute." Some later phrase maker has said, "Two crooks are born every minute to take care of the sucker."

So long as there are suckers there will be crooks. The burden that rests on the medical profession is that of making our professional services of the highest type possible.

We injure ourselves and the cause of the profession when we attempt to use the the Medical Practice Act to protect the profession of medicine against the influence of some quack. He does not injure us.

If the science of medicine will not stand up before the public against all sorts of quackery it does not deserve to stand. The facts are it does stand—it will continue to stand. No law will ever be written that will protect every sucker against every quack.

NEWS NOTES AND COMMENTS

The Pan-American Medical Congress will hold its 1932 convention in New Orleans.

Dr. L. L. Barnes, of Sweetwater, is doing post-graduate work at Vanderbilt Hospital, Nashville.

Dr. Joseph Rogers Walker, of Rogersville, celebrated his hundredth birthday on August 24th.

Dr. James I. Vance, of Nashville, and Dr. Walker's son, Rev. Hugh Walker, of Los Angeles, were among the speakers at the celebration. Messages of congratulations were received from every state in the Union.

MEDICAL SOCIETIES

Anderson County—The Anderson and Campbell County Medical Societies met in joint session in the Government building at Jellico on August 27th. Both Societies were well represented and a number of visitors were present. The program consisted of a paper, "The Value of a Physician's Reputation", by Dr. J. M. Cox, of Coal Creek, and a paper on "The Complications of Pregnancy and Their Treatment", by Dr. H. T. Fortner, of Jellico. Both papers were well received. A general discussion followed. Following the program a delightful luncheon was given by the physicians of Jellico. The next joint meeting will be held in Coal Creek on Thursday, Sept. 24.

Bedford County—At the August meeting Dr. V. K. Earthman's subject was "Pink Eye".

The next meeting will be held on September 17th.

Benton, Carroll, Henry, Weakley Counties—The Tri-County Medical Society met on August 11th, at McKenzie. Papers were presented by Dr. R. M. Little, Martin, on "Cardiac Arythmias"; Dr. B. W. Hillsman, of Trezevant, "Valvular Diseases"; and Dr. H. L. Alexander, of McKenzie, "A Case Report".

Davidson County—Sept. 1: "Measles Immunization", by Dr. Hearn Bradley. Discussion opened by Dr. Milton Smith Lewis.

Sept. 8th: "Endometrial Hyperplasia", by Dr. John Burch. Discussion opened by Dr. Harlan Tucker.

Sept. 15th: "Prenatal Care", by Dr. Sam Cowan. Discussion opened by Dr. Paul Warner.

Dyer, Lake and Crockett—The regular monthly meeting of the Dyer, Lake and Crockett County Medical Society met on September 2, with the following program:

Case Reports—Voluntary.

"Blood Pressure", by Dr. C. L. Denton.

"Abscess of the Liver, With Report of Case", by Dr. E. H. Baird.

"Diabetes", by Dr. R. W. Griffin.

Hamblen County—Dr. R. B. Wood, of Knoxville, addressed the regular monthly meeting in August. Dr. Wood spoke on "Metabolism" and "Hypertension".

Dr. P. L. Henderson, secretary, arranged for a watermelon feast following the program.

Hamilton County—September programs are planned as follows:

Sept. 3rd: "Conservation in Antrum Surgery", by Dr. W. A Garrott. "Coronary Thrombosis", by Dr. L. Shumacker.

Sept. 10th: "Hypertension", by Dr. W. E. Vaden. "Qualification of An Expert and Non-Expert Witness", by Dr. J. B. Swafford.

Sept. 17th: "Gastric Ulcer", by Dr. B. S. Wert; "Use and Abuse of Forceps", by Dr. D. N. Williams; "Intestinal Obstruction", by Dr. A. M. Patterson. "Indication for Use of Forceps", by Dr. E. F. Buckner.

Sept. 24th: "Surgery of the Rectum", by Dr. W. D. L. Record. "State Medicine", by Dr. W. A. Reed.

Hancock, Claiborne, Union Counties—The Tri-County Medical Society met on August 24th. Those in attendance were

Drs. Andrew Smith, M. S. Roberts, Howard M. Taylor, Herbert Acuff, Robert Patterson, Lawrence Chumley, W. P. Wood, E. T. Wood, M. B. Carr, J. H. S. Morrison, T. B. Sneed, H. C. Chance, Harvey Carr, Otis Carr and Jesse Vancel.

Dr. Andrew Smith read a paper on "Complications of Obstetrics".

Dr. M. S. Roberts read a paper on "Appendicitis and Its Complications".

Dr. Howard M. Taylor's subject was "Borderline Pathology and Oral Surgery".

Henderson, Chester and Decatur Counties—A meeting was held on August 13th. The following papers were read:

"Infantile Mastoiditis", by Dr. A. B. Dancy, Jackson.

"Serum Therapy and Reactions in Communicable Diseases", by Dr. Gilbert Levy, Memphis.

"Some of the Evils of Too Much Milk", by Dr. Eugene Rosamond, Memphis.

Those present were Drs. Eugene Rosamond and Gilbert Levy, of Memphis; Chas. Webb, A. B. Dancy, Stanford Herron, Herman Hawkins, Sam Parker, and B. Brashear, of Jackson; Drs. Howell and Johnson, of Lexington; Drs. Bolen and Wilder, of Wildersville; Drs. McMillan and Rogers, of Decaturville; Dr. Currie, of Bolivar; Dr. Smith, of Selmer; Dr. Davis, of Montezuma; Drs. Fitts, White, Stephens, Baird, Smith and Anderson, of Henderson County.

Knox County—The following papers have been read before the Knox County Medical Society:

August 11th: "Gonorrhea in the Female", by Dr. J. B. Neil. Discussion opened by Dr. Fred Garvey.

August 18th: Dr. Arthur I. Kendall, Professor of Bacteriology, Northwestern University, Chicago, was the speaker.

August 25th: "Caesarean Section", by Dr. A. L. Rule. Discussion opened by Dr. A. B. Stone.

Madison County—More than seventy-five members of the Madison County Medical Society and their guests attended the annual outing and barbecue dinner on August 6th, at the West Tennessee Fairgrounds. The outing, an annual affair, was one of the most successful the society has ever given and all who attended enjoyed the affair.

Roane, McMinn, Monroe and Loudon Counties—The Roane, McMinn, Monroe and Loudon County Society met in Lenoir City on September 3rd. The following papers were read:

"Sprue", by Dr. J. G. Eblen, Lenoir City. Discussed by Drs. G. P. Zirkle, Kingston, and J. W. Cameran, Sweetwater.

"Gaultheria", by Dr. J. J. Waller, Oliver Springs. Discussion led by Drs. Avery Leeper, Lenoir City, and F. O. Nichols, Etowah.

"Nephritis", by Dr. R. C. Kimbrough, Madisonville. Discussion led by Drs. W. E. Gallion, Oakdale, and Arthur Harrison, Loudon.

"Eclampsia: Its Diagnosis and Treatment", by Dr. Roy Epperson, Athens. Discussion led by Drs. T. M. Roberts, Sweetwater, and S. B. McClary, Etowah.

"Myocardial Failure", by Dr. R. B. Wood, Knoxville.

A Dutch lunch was served at the General Lenoir Hotel. After dinner talks were made by Drs. John Haskins, of Chattanooga; J. A. McCulloch, Maryville; H. E. Christenberry and W. S. Nash, of Knoxville.

Robertson County—The Robertson County Medical Society held its regular monthly meeting in Springfield on August 18th. Drs. John M. Lee and Carl S. McMurray, of Nashville, were the essayists for the meeting, the title of Dr. Lee's paper being "Throat Infections in Infants and Children", and that of Dr. McMurray's was "Endocrinology in Gynecology". Both papers were discussed.

Those present were Drs. Fentress, Banks, Porter, Ayres, Hawkins, Rude, Dye, Gossett and Fyke.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By Hugh Barr, M.D.
Medical Arts Bldg., Nashville

Nature of Anesthesia: Preliminary Observations. Amy Littig, M.D., Chicago, Ill. Current Researches in Anesthesia and Analgesia. March-April, 1931.

Modern theory tells us that we may consider the living cell as a miniature Leyden jar containing two solutions of different H-ion concentration separated by a di-electric lipoid film, and surrounded by a di-electric lipoid film. Anesthetic agents possess low polarity. Some agents possess no polarity. They all have lipoid affinity. In their attraction to the lipoid film of the cell, they should penetrate only in proportion of their polarity to the polarity of the molecules composing the film. If of low or no polarity they should not reach the inner circle.

The adherence of such substances to the cell surface, or by partial or slow passage of the large molecules through the cell wall, the di-electric film is thickened and the normal gateways are blocked. A thickened film loses its capacity to bear charge and metabolism is slower and cell respiration is reduced. Where the concentration of the anesthetic is so great as to exclude oxygen, asphyxia is produced.

Therefore undercharged nerve and muscle cells would lose their power to respond to stimuli. Anesthesia is defined as an artificially produced and maintained fatigue. It is apparently a reduction in potential energy, the result of decreased production or retention of electrical discharge, or both, effected through physical action at the limiting lipoid films.

INTERNAL MEDICINE

By R. B. Wood, M.D.
C. J. Carmichael, M.D.
Knoxville

The Heart in Old Age, by Fredrick A. Willins. Journal American Medical Sciences, July, 1931.

A review of Dr. Willins article impresses one with two important facts: first, the inability of the profession to estimate function and reserve of the human heart with the aid of all means at our disposal; second, the incorrectness of much of our prognostic opinions. He has made a study of the hearts in 700 individuals past 75 years of age and up to and including 91 years of age. In one group of 385 cases studied only 47 cases had angina pectoris and only one patient developed coronary thrombosis. Of the entire 700 cases studied only 55 per cent had any clinical evidence of heart disease (remarkable for age group). One must be impressed from this study with the unusual quality hearts possess even in the presence of disease at this age; also with the prognosis in sclerosis of coronaries.

The Relation of Achlorhydria to Pernicious Anemia: by Eli Moschowitz. Archives of Internal Medicine, August, 1931.

Attention is drawn to the constance of the symptom achlorhydria in this condition and expresses the doubt of the genuineness of the diagnosis when it is not present. He calls attention to the fact that it is a primary condition and thinks it bears some relation as an etiological factor, but in just what way he does not say. It seems well established when the diagnosis of pernicious anemia is made and does not change either with progressively downward course of case nor in case of remissions when blood picture has improved markedly. Attention is called to the extreme rarity of achlorhydria in children, but again no explanation has been offered. The writer thinks achlorhydria occurs in family groups and that the condition increases with each decade from childhood (much food for thought). He even goes so far as to say that pernicious anemia is frequently heriditary. Rightly he attributes the association of bothriocephalus latus infection as coincidental.

Moschowitz logically has shown that there must be some factor responsible for the anemia other than an artificially produced achlorhydria, as in complete gastric resection. Hence we must conclude that there yet remains some undetermined factor which produces the achlorhydria and the anemia. He correctly eliminates pregnancy as an etiological factor and calls such cases, one of pregnancy in a case of pernicious anemia.

Mention is made of the similarity of pernicious anemia and sprue and the fact that both manifest an achlorhydria.

The Treatment of the Gastrocardiac Syndrome. (Gastric Cardiopathy). Privy Counsellor L. Roemheld, M.D. American Journal Medical Sciences, July, 1931.

The Gastrocardiac Syndrome is a term used to designate a symptom complex which is variously diagnosed as cardiac and serious; or Gastric without any connection with circulatory system; or as purely nervous and not demanding any attention. Roemheld emphasizes the importance of a clear diagnosis in order to prevent much cardiac treatment when the heart is perfectly normal and again to know just what the cardiac function is; also the gastric function. This group of patients probably represent many of those coming to us with "gas attacks" of undetermined cause. He applies treatment under three heads: (1) Physic and general care of patient whose gastric function may produce all symptoms resulting from neuroses. (2) Dietetic and medicinal. (3) Physiotherapy.

He stresses the elimination of carbohydrate (gas forming) foods. Environmental changes which affect gastric secretion through autonomous nervous system must be corrected. He thinks both methods will fail unless proper physiotherapy is carried out with the idea of hastening abdominal venus circulation, thus reducing accumulation of gas.

He recommends abdominal massage, gymnastics, stiz-baths and breathing exercises.

OBSTETRICS

By James R. Reinberger, M.D.
416 Medical Arts Bldg., Memphis

Breech Presentation, by Fred J. Taussig, M. D. Amer. Jour. of Gyn. & Obs.

The writer reviewed the breech deliveries of two St. Louis Hospitals and found 225 breeches out of 6,689 or 3.3 per cent. He listed etiology for same (1) contracted pelves; (2) thick rigid cervix; (3) placenta previa; (4) multiple pregnancies; (5) hydocephalus; (6) hydramnion; (7) relaxed abdominal walls; (8) any condition which may alter the shape of the uterine cavity, as deformed uterus or fibroid tumors.

The importance of making the diagnosis early is stressed, as it is generally conceded that the practice of external version materially lowers the incidence of breech presentation found at the time of delivery. This is to be done without anesthesia and should be done about the eighth month. The percentage of failures averages around 30 per cent and often reoccurrence of the position follows. He quoted Ehrenfest's figures in the outcome of 11 breeches successfully turned compared with the 11 breeches delivered unturned. In the former only one died, while in the latter there were three deaths.

Breech presentations were divided into complete breech, frank breech and footling. He feels that a complete breech gives the best prognosis in that the feet can be grasped if the proper delivery does not insue, while in the frank breeches the splinting of the body by the fetal legs ofttimes causes arrest.

In the management of the cases he stresses first the importance of complete effacement of the cervix and second at delivery by doing a lateral episiotomy in almost every case. The golden rule in the management of breech cases is carried out, "Push! don't pull!" In fact, nothing is done until after the umbilicus is delivered when the ordinary method of delivery shoulder is carried out. However, the application of the Piper Forcep to the aftercoming head is often necessary. He feels that Cesarean Section is indicated in a considerable number of cases because the actual disproportion cannot be as accurately gaged as in cephalic presentation.

He compares the fetal mortality of Irvings and Goethals, E. L. King, DeLee, Caldwell and Studiford and Duncan and found the average from 8 to 12 per cent. His own mortality was 8.8 per cent for the St. Louis Maternity Hospital and 14.5 per cent at the Jewish Hospital.

He found that most of the fetal injuries were due to rapid and forcible extractions or unduly prolonged second stage with doubtless pressure on the cord. He feels that breaking up the breech in many of these cases would undoubtedly have lowered the mortality in a second stage lasting over two hours. And that in excessively large babies that Cesarean Section may have aided.

The reviewer sees a renewed interest generally throughout the country and feels that this will eventually lower the incidence of breech presentation and likewise a lowering of the fetal mortality. He practices hands off in the first stage of labor other than in the normal breech. As the breech presents at the perineum a mediolateral episiotomy is performed under local anesthesia and gas is begun. Oft times with this procedure and with proper analgesia that the breech can be pushed out to the umbilicus before any anesthetic is started. This within itself cannot be ignored, as a cause of asphexia, probably stillborn. The patient is then given surgical anesthesia and traction is made on the legs, either with the back of the baby occupying the hollow of the sacrum or anterior. In other words, following the usual Potter Technique in preventing extension and facilitating delivery of the arms. He has found it necessary only once to apply forceps to the aftercoming head. The most of the difficulties encountered in breech deliveries is the too active interference in extraction of the baby before the cervix is completely dilated; thereby causing extension of the arms or the clamping down of the cervix around the aftercoming head. This can be obviated even when it is necessary from either fetal or maternal distress by performing a unilateral or bilateral incision of the cervix. In marked disportion Cesarean Section is indicated and in a prolonged second stage, breaking up of breech and delivery of child before partial asphaxia has taken place.

OPTHALMOLOGY

By Robert J. Warner, M.D.

Doctors Building, Nashville

Accidental Infection With Trachoma. R. P. Wilson, American Journal of Ophthalmology, Aug., 1931.

A case of accidental infection of an ophthalmic surgeon with trachoma is recorded. While expressing the conjunctiva of a patient with florid trachoma some of the material splashed up into his right eye. The eye was immediately irrigated with antiseptic solutions, but two days later there was slight discharge and on the fourth day the palpebral conjunctiva was acutely congested and the vessels at the upper limbus were slightly injected. By the eighth day some very tiny follicles had appeared near the upper border of the upper tarsus which was swollen, and deeply congested. The bulbar conjunctiva was also slightly congested. On the eighteenth day many stage one, T. 1 (incipient trachoma, MacCallan's classification) follicles were visible over the tarsus but particularly near the upper edge. The palpebral conjunctiva was finely granular and very acutely inflamed, while the conjunctiva of the upper limbus was also edematous and congested. In spite of all possible precautions being taken the left eye became involved about the twenty-fourth day and progressed typically. Active treatment was instituted for both eyes, curettage being performed twice and the copper stick used energetically as well as chaulmoogra oil, which seemed to give the most benefit. When seen ten months later there was still present chronic congestion of the tarsal conjunctiva of both eyes, fine cicatrices, and a few follicles in process of cicatrization. Neither cornea had developed trachomatous changes, the lack of which is extremely rare in Egyptian trachoma.

ORTHOPEDIC SURGERY

By Robert F. Patterson, M.D.

Medical Arts Building, Knoxville

A New (Plaster Yoke) for Fracture of the Clavacle. By Wallace Billington. Southern Medical Journal. August, 1931.

To reduce a fracture of the Clavacle, the shoulder must be brought upward, backward and outward, and must be held there. This is not accomplished by most of the appliances, or procedures used for ambulatory treatment—usually they fail to hold the shoulder upward and outward. The reason of this is that they have no base of support from above from which to lift the shoulder.

The advantages of the "PLASTER YOKE" are that it is rigid and does not slip and getting its base of support on top of the shoulders near the base of the neck, it exerts a positive backward and outward pull on the shoulder. It is comfortable—allows free use of the arms and permits pressure by padding on the inner fragment.

It is applied as follows:

A figure of eight is applied to back, made of one-fourth inch saddlers felt, using three to six-inch bandages. The patient sits in a low back straight chair and grasps the chair by his side with the well arm. An assistant sits in another chair at the side and firmly grasping the arm holds the afflicted shoulder upward, outward and backward with the arm in 60 degrees abduction. Over the padding is then applied a figure eight plaster of paris cast, which is reinforced by extra pieces laid over the main or yoke portion and extending out one or two inches on the arm. It is moulded snugly around the base of the neck and under each arm, holdng the affected shoulder well up and back as it hardens. The excellent illustrations show at a glance the details of the procedure.

This method appeals to me as being an excellent one for ambulatory treatment.

PEDIATRICS

By John M. Lee, M.D.

Doctors Building, Nashville

Congenital Pyloric Obstruction. Orville Barbour, M.D., Jour. A. M. A., Aug. 15, 1931.

The symptoms of congenital pyloric obstruction are due to the degree of spasm and the amount of obstruction from organic changes at the pylorus. Many think this condition due to imbalance of the vegetative nervous system, and there is some evidence that this imbalance is due to postnatal involution of the suprarenal glands. While most clinicians agree on the clinical evidence necessary to a diagnosis of this disease, there is no uniform criterion by which one may determine the cases best suited to medical treatment and those requiring surgery. The author advises 48 hours with the usual medical treatment, and failing to relieve the symptoms, three to five minutes application of roentgen rays to the upper part of the chest.

In his experience, if the obstruction is spasmodic, the symptoms are relieved in 24 hours; if the obstruction is organic, the symptoms are not modified. At this time the patient is in better condition to stand surgery than after a week or two of ineffective medical treatment.

In the medical treatment of these cases, thick cereal feedings, atropine, papaverine, phenobarbital, alkalies, lavage and gavage have been used with varying results. The author reports good results with irradiation, as have others. Thirty-seven cases that did not respond to internal treatment were irradiated; thirty-three were relieved; four were operated. The author feels that irradiation offers a prompt means of determining the need for surgery in these cases, thus avoiding the one or two weeks of ineffective medical treatment which lowers the patient's vitality and increases the risk from surgery.

The roentgen technic is given, also detailed reports of 16 of the cases in the above series.

SURGERY — GENERAL AND ABDOMINAL

By John L. Dies, M.D.
1213 Exchange Building, Memphis

Avoidance of Postoperative Thrombophlebitis. Rupp. Zentralblatt fuer Chirurgie, 58:1444-1446. June 6, 1931.

Bandaging of the legs has long been recommended for the avoidance of postoperative thrombophlebitis, but only since adhesive elastic bandages have been used have the results been entirely satisfactory. In fact the measure seems to be a great advance in the avoidance of this postoperative complication. The only drawback is the high cost. This drawback was met, however, by using tricot bandages "ideal" which were fastened with mastisol, apparently with the same effect. Itching which was occasionally observed was put up with by the patients without great complaint, even if the bandages had to stay in situ for a long time. Eczemas were not observed.

For the past ten months, Rupp had the legs of patients freshly operated upon, in whom thrombophebitis was feared, bandaged from toes up to the inguinal fold. Care was taken that the bandages were stretched evenly while making the turns. The immediate objective of the measure is to prevent the formation of dead spaces leading to venous obstruction. The number of cases is 400 (of 1,100 operations upon adults), including 57 laparotomies (operations upon the stomach or gall bladder), 209 appendectomies, 89 operations for hernia, many operations for carcinoma of the breast, etc. In strumectomies the bandaging was only in case of visible varicosities, since experience had shown that thrombophebitis is very rare after strumectomies (only a few very light cases were observed in more than 4,000 strumectomies). In the gynecological station the prophylactic bandages was done in 110 cases, including operations upon the adnexa (48 cases), total hysterectomy for myoma, etc., (16 cases), colporrhapy (25 cases), Cesarean section (7 cases), and in puerperae showing varicose veins.

In none of these cases, except one with a fatal issue, did a distinct thrombophelbitis or pulmonary embolism occur. In a few cases slight transient pains in the calf of the leg appeared, or slight pulmonary symptoms, or a possibly embolic nature but probably on a bronchopneumonic basis. As the bandage could only have an indirect effect on the pelvis veins, these veins might easily have been the source of embolisms.

In the one fatality, doubtful at that as to whether it was due to embolism (death after proststectomy, patient 72 years old under unclear (pulonary symptoms) embolism may have started in the pelvic veins, since thrombophlebitis of the legs was absent. The conduct of the pulse, however, pointed to a cardiac death. Autopsy was refused.

These splendid results could not be a matter of mere coincidence. Formerly, despite application of ordinary bandages, administration of thyroxine, massage, early getting up, etc., the rate of postoperative thrombophlebitis had been as high as in other surgical clinics. Besides, two cases of severe thrombophlebitis after noncomplicated appendectomy were observed within the same period of ten months, one in a male of 41 years old, in both of whom the bandaging had been regarded as negligible. In the gynecological station thrombophlebitis was observed after ventrofixation of the uterus also in a nonbandaged patient.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,
and F. K. Garvey, M.D.
Medical Building, Knoxville

Some Public Health Aspects of Syphilis. Taliaferro Clark. Venereal Disease Information, May 2nd, 1931.

In areaes where lues is reportable, since 1920 there were 35,000 more cases of syphilis than of scarlet fever, 79,000 more than all forms of tuberculosis, one-third more cases than of diphtheria. First definite history of syphilis dates back to 1493 in Barcelona. It appeared in France, Germany, and Switzerland in 1495. In 1530 Fracastorius wrote a poem in which he called his hero Syphilis, meaning swine lover. Schaudinn discovered the treponemen in 1905. Salvarsan was introduced by Ehrlich in 1910. A survey by the U. S. Public Health Service in collaboration with the American Association of Social Hygiene was undertaken to arrive at the prevalence of the disease in the U. S. Both rural and urban districts in all parts of the U. S. are included. Four per cent of the white, and 7.2 per cent of colored population were infected. The incidence in the cities were much greater than the rural sections. There were 99,333 cases under treatment in the U. S. at the time of survey, about 69 per cent of which were being treated by private physicians, and 31 per cent by clinics. Their survey shows a decided decrease in death rate due to syphilis in white, and an increase in negroes.

Incidence in foreign countries were also studied. These show a marked decrease in the incidence of gonorrhea, syphilis, and chancroid.

They found approximately 425,000 syphilitic infections in the U. S. per year, 12 per cent of deaths in 4,000 deliveries at John Hopkins was due to syphilis.

The incidence of congenital syphilis was about 2 per cent.

Syphilis is responsible for 10 to 15 per cent of all blindness.

Two hundred and twenty-eight out of every 100,000 deaths are due to heart disease, 106 from diseases of the kidney, 105 from cancer, and 100 from pneumonia. Deaths from heart disease are increasing. Cario-vascular syphilis constitutes 11 to 25 per cent of all organic heart disease. Sudden cardiac deaths are five times as common in the syphilitics as in the non-syphilitics.

As control measures, he places education of the public as of first importance. He believes that the teacher training schools and colleges are the proper places that sex hygiene should be taught.

Law enforcement is another measure that should be insisted upon. Prenuptial certificates of freedom from venereal disease is important. At the present time only 12 states require this in some form.

The inadequacy of treatment and the ignorance of the average doctor in the treatment of syphilis is discussed.

Prophylactic stations were studied and found to be inadequate as a factor in the incidence reduction.

This is a most comprehensive article and well worth while to any one interested in this disease, especially from a public health standpoint.

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THE TREATMENT OF VARICOSE VEINS AND ULCERS BY SCLEROSING SOLUTIONS AND UNNA'S BOOT*

EDWARD T. NEWELL, B.S., M.D., F.A.C.S., Chattanooga

MY attention was first attracted to the treatment of varicose veins by sclerosing solutions in the spring of 1926, while visiting a Clinic of Professor Boetcher, of Florence, Italy.

For a year or two prior to 1926, there had been a renewal of interest in the injection method of treatment of varicose veins both in Paris and in Vienna.

To my utter amazement, Professor Boetcher in his Clinic, on the day I was present, was injecting a dilute solution of "tincture of iodine" directly into the veins, in what appeared to me to be in a very indifferent manner—claiming that the iodine solution became so dilute before it reached the larger veins, and the deep venous circulation and viscera, that it was harmless, and non-irritating to the delicate endothelial cells of their intima.

The large and representative body of American surgeons present did not take well at that time to the distinguished Italian professor's treatment of leg varicosities, expressing freely their preference for the surgical procedure, for the removal of such veins—a procedure which had been in vogue over such a long period of time. However, the literature of late has continued to be filled, in this country and in Europe, with reports of the successes of the "injection method of treatment of varicose veins" to such an extent, that we can now no longer fail to recognize that the injection method of treatment for this condition is better than the older surgical procedures of vein removal; ligation; transplantation; anastomosis; etc.

McPheters of Minneapolis, in October, 1928, reported over 53,000 cases which had been treated with the sclerosing method in America and Europe—within the preceding four years—with a mortality of 0.0024 of 1 per cent. From the standpoint of mortality, this is far better than any operative statistics that any clinic has ever been able to publish in the past, or can hope to accomplish in the future. The lowest operative mortality for varicose veins at the present is .7 of 1 per cent, or 7 in 1,000.

No doubt, the number of cases treated by this method, at the present time, will exceed one hundred thousand cases, for this method is now the accredited treatment for varicose veins in this country as well as in Europe and other countries.

The sclerosing treatment to be described later is so simple, painless and effective, not requiring hospitalization, anesthesia, nursing, cessation from work, or any great outlay of money, that it appeals to both patient and doctor alike.

However, before entering upon a discussion of the technique, it might be well to recall that most varicose veins are of the lower extremities, located principally below the

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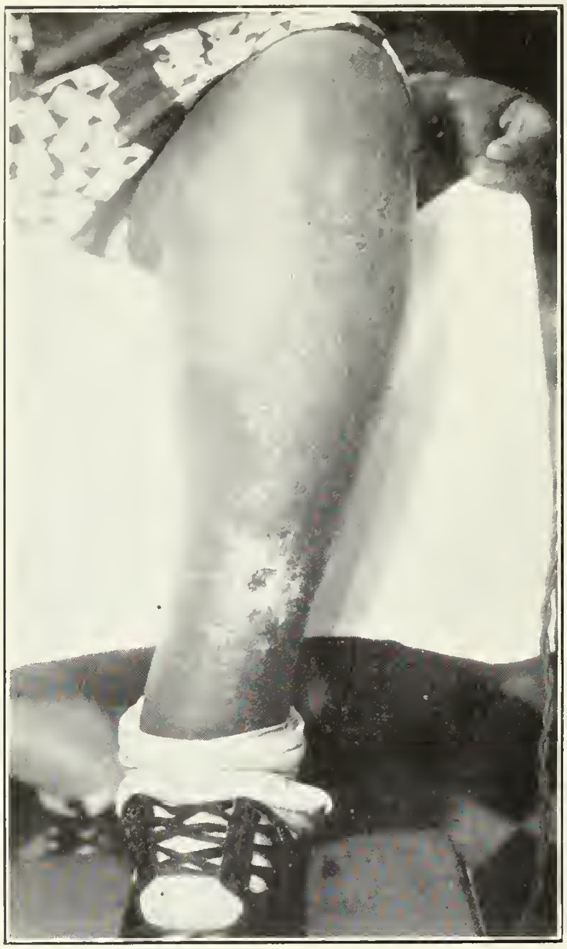
*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16, 1931.



No. I
Varicose Ulcer Before Injection.

knee, some around and a few above it, as far as the juncture of saphenous and femoral veins.

The venous system, as you know, is composed of superficial and the deep veins. It is with the former that we are chiefly concerned in this treatment. The internal saphenous veins, which arise behind the (medial) maleolus and which is principally distributed to the anterior-medial aspects of the leg and the thigh, is the chief offender; but is by no means the sole one.

The external saphenous arising above and behind the (lateral) maleolus is distributed to the lateral and posterior aspects of the calf of the leg, and is quite frequently involved.

You may have varicosities anywhere on the lower extremity from the foot to the body.

These varicosities vary from small spider-web like discolorations, to large cavenous and tortunous tubes. As will be discussed later, the size and structure of the vein wall and location, are all-important factors in the appropriate selection of the sclerosing chemical and the amount of same to be used in the treatment.

In every case, before any attempt is made, either to remove varicose veins of the leg surgically or by the sclerosing method, the validity of the deeper veins must first be ascertained—not alone by the absence of a history of previous Phlebitis, typhoid fever, etc., but by the Trendelenburg and other well known tests. Should the test reveal that the deeper veins are not patent, then no treatment should be attempted, sclerosing, surgical, or otherwise. Simple supportive apparatus is all that can be used.

The simplest and safest test for detecting "occlusion of deep veins" is to apply a tight bandage to the entire extremity to be tested, and allow the patient to wear this for several hours—ambulatory. If he suffers great *pain* or *discomfort* it is reasonable to suppose that the deep veins are occluded.

About 70 per cent of all varicose veins are supposed to be constitutional—hereditary—but not all are, and before any treatment is instituted, a well taken history and a careful physical examination should be made. Varicosities due to arterio-venus aneurysms and bone sarcoma have been treated as ordinary varicose veins; subjected to the injection treatment and surgery—such errors are inexcusable.

The success of the obliterative treatment, depends upon the use of a drug that can be injected into a dilated vein, that is non-toxic to the patient, and at the same time has a local irritating effect upon the intima of the affected vein, either producing an agglutination of the opposing walls, or coagulating the blood content, producing a strong thrombus—this to be followed by organization and later by obliteration of the lumen, of the section of the vein injected, leaving, finally a small fiborus cord.

There have been many solutions suggested to fulfill the above requirements, since the adoption of this method. The outstanding solutions at the present time that seem to have withstood the test of "little or no pain at the site of injection", "no untoward after effects", and "low mortality", are as follows:

1. Quinine Dihydrochloride and Urethane.
2. 20 per cent Sodium Chloride Solution.
3. 20-30 per cent Salicylate of Soda Solution.
4. 50 per cent Glucose Solution.
5. A mixture of Glucose and Saline in Solution.

There are a host of other solutions recommended such as Mercuric Chloride, Alcohol, Grape Sugar, Iodine, Calcrease, etc.

The Glucose 50 per cent solution and the Sodium Chloride (20 per cent solution) are usually injected—5 c.c. at each site; two or three injections being made at each sitting. The Quinine Hydrochloride and Urethane is put up in 2 c.c. ampules and of this 0.5-1 c.c. is used at each site; not more than two or three injections should be made at one sitting. The injections are to be repeated in three to seven days in the ordinary case. Each ampule of Quinine-Urethane, contains two grains of Quinine and one grain of Urethane to each c.c. This is by far the best preparation for general use. It is practically non-toxic and does not cause cramping in the leg; as do all other solutions.

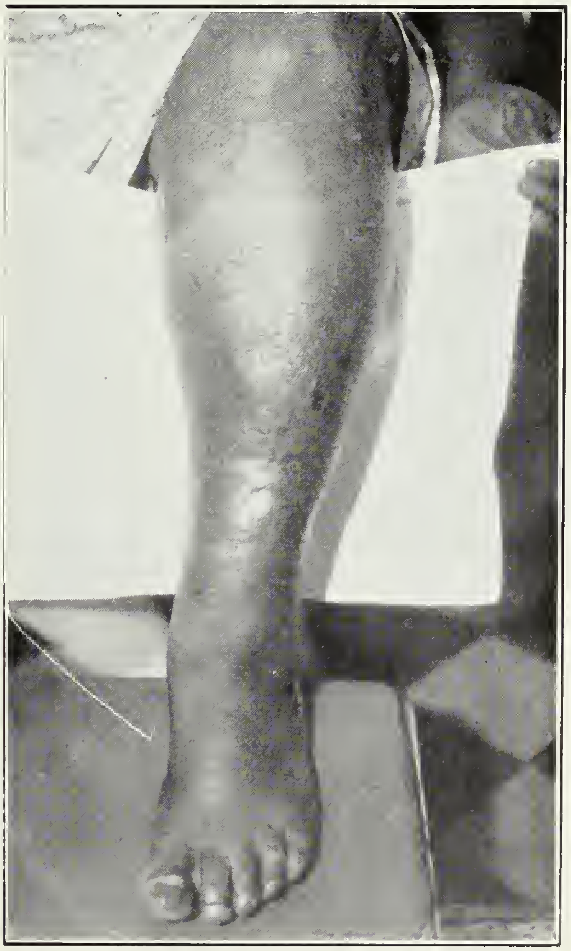
TECHNIQUE OF INJECTIONS

The veins can be made to "stand out" by the patient standing on his feet or angulating his leg on the lower end of the operating table. Should the veins not be sufficiently prominent, a light tourniquet can be applied.

In selecting the initial site for injection, it is well to begin high up on the leg, and to descend with succeeding injections. Especially is this so if the patient has inflammation in the lower part of the leg around an ulcer. These injections are best given with a 1 to 5 c.c. Luer Syringe, using a very fine needle for each injection. New needles cause less pain, enter the veins readily, and the small opening made in the vein wall is less liable to permit the escape of the sclerosing solution to leak, following its removal. I prefer the small tuberculin syringe in general use for this work.

It is most essential to thoroughly cleanse the skin, over the varicosity, with ether or alcohol, and after introducing the needle to withdraw the plunger to ascertain that you are "in the vein"; then slowly and cautiously inject the solution into the varicosed vein, your assistant blocking off the vein—above and below the site of injection—unless you are using tourniquets or some of the new instruments, now on the market, to hold the blood in situ. Personally, I doubt if this is of any value.

The needle is left in the vein for one-half minute, and immediately upon its removal,



No. II
Showing Healed Ulcer Six Weeks Later.
All Swelling Gone.

a cotton or sponge pledget is pressed directly over the site of the injection. The idea being to coaptate the irritated vein walls in order that union may take place. This pledget is held firmly in place by adhesive plaster for 48 hours. All subsequent injections are performed in a similar manner. The leg is usually bandaged from the foot to and above the highest injected area. Some men do not bandage the leg.

No. III
Showing Application of Unna's Paste.

After remaining quiet for a few minutes the patient is permitted to get up and go about his or her usual routine. Absolute quiet is said to favor the formation of emboli. The patient should return in three to five days for inspection and re-injection. There is usually by this time redness and some induration at the site of injection and the therombii can be felt in the lumen of the varicosed veins.

Complications—If you have missed the vein or have gone through the vein or the needle is too large and the fluid has leaked, or the thin walled vein has ruptured from too forcible injection; the sclerosing effect that was intended to take effect within the vein, will manifest itself in the peri-vascular tissue, and you will obtain not only a great deal of pain, but a necrotic area that will take a long time to heal.

The second and most serious complication that may develop is a thrombuss, "that gives off an embolus", with its disastrous secondary effects. While this is much to be feared, and is theoretically possible, it practically never occurs, as is demonstrated from the excellent statistics cited above. Strong toxic solutions, such as mercuroic chloride can and do produce poisonous effects upon distant organs, followed by morbidity and mortality and for that reason have been abandoned.

Contraindications—Arteriosclerosis, active tuberculosis, nephritis, infections, phlebitis, thrombo-phlebitis and great oedema. Varicose ulcer is not a contraindication for this treatment, but an indication.

Unna's Boot—Some of the larger leg ulcers that have persisted for a long time as the result of varicose veins, frequently require treatment in addition to the simple sclerosing of the varicose veins. These cases should be, where they are infected, covered with scales and crusts on an edematous base, put to bed and placed in the Hot Boric Pack for forty-eight hours. This will clear up the infection, reduce the edema, supply the leg with new plasma and greatly facilitate the next step in the treatment of these old leg ulcers.

Following the above treatment, the leg should be placed in Unna's Boot. This boot is made of Unna's paste incorporated in the ordinary gauze roller bandage—from five to six or more layers being used.

Unna's paste which is a very old formula is composed of four parts by weight each of gelatine and zinc oxide and ten parts by weight each water and glycerine. It is prepared by adding the water to the gelatine and stirring the solution until the gelatine is dissolved and then slowly adding the zinc oxide and glycerine. After this has been well stirred bringing the entire contents to a boil.

Application—With a soft varnish brush apply the hot paste, as hot as the patient can stand it, to the leg from the knee to the toes, covering the entire leg and ulcer. The bandage is made to run smoothly over the paste, no reverses are permitted. If the bandage begins to bind or crease, cut it and begin again. Additional layers are applied in this manner until you have built up a boot one-eighth of an inch in thickness. It is elastic and comfortable and promotes the healing of the ulcer, by keeping the blood flowing in the vessels as well as the lymphs in the lymphatic vessels.

As soon as the boot becomes soft or creases at the site of the ulcer, it is removed and a new one applied. This is repeated as often as necessary until the ulcer has entirely healed.

It is usual to begin the sclerosing treatment of varicose veins before the application of the boot, but there is no objection to making the injections at the time of the application of the boot.

My experience has been that there are not a great many cases in which the application of Unna's Boot is imperative, for the obliteration of the dilated veins by the sclerosing solution will usually cause the rapid healing of the ulcer. Yet there are a definite number of cases of which Unna's Boot is not only a help but a necessity.

In a previous paper on this subject read before the East Tennessee Medical Association two years ago, I reported the results obtained in the few cases that I had used the sclerosing treatment. I was very enthusiastic about the results obtained, but stated that I would like a larger series from which to draw more definite conclusions.

Since that time I have not operated on a single varicosity that has come to our clinic —using the injection method exclusively— for I have had no failures and no morbidity or mortality.

It is said that recurrences occur after surgical removal of varicose veins in 20 to 30 per cent of cases, while it is claimed that following the sclerosing treatment, recurrences are between 5 and 10 per cent. It is possible that some of these cases are not real recurrences, but may be new developments. Takats claims that a few cases will recur if the varicosity is high up on the thigh provided you do not first ligate the saphenous vein as it enters the femoral.

Summary—The sclerosing treatment of varicosities is preferable to operation.

First—Because it is ambulatory, no hospitalization, no pain and no loss of time.

Second—Because it has less morbidity and lower mortality.

Third—Because it has a lower percentage of recurrences.

Fourth—Because it is much less expensive.

Surgery welcomes this simple yet effective treatment of varicose veins. All surgeons are very happy when any simple method is devised that will replace any of the minor or surgical procedures which have been practiced in the past, provided they are, as this procedure is, simple, safe and basically sound.

No. IV

Illustrating perfectly smooth application of bandage. No reverses. Flexible and supporting boot is made when completed.

DISCUSSION

DR. J. J. WALLER (Oliver Springs): I should like to have Dr. Newell clear up on point. I find in a portion of those old ulcer legs, the leg is more or less edematous, and it is very difficult to locate a vein of any size anywhere near the ulcer. Tell us how you inject and get after them where you can't find the vein very well.

DR. E. T. NEWELL (Closing): Answering the doctor's questions, it is often very difficult to find the varicose veins, especially those close to an ulcer, and as stated in the paper, I start first above —up high—and inject down toward the ulcer, and as you proceed downward, the leg will be greatly reduced in size, and as it is reduced, the veins will be more perceptible. It is so difficult at times to locate the varicosity, that you have to make your patient stand up or put his leg over the end of the table. Sometimes you find by using light compression, a light tourniquet, they will stand out, and a vein of considerable size that you did not know was present—you find very easily; you sclerose it; and the ulcer heals rapidly.

I hope that you men who are not using this method will take to it. If you haven't used it, you probably are just like I was when I was in the Italian professor's clinic. A hundred American surgeons were there, and when they saw him "shoot the iodine" in the veins, they all agreed that they would go back home and do just as they had been doing.

But if you will take well selected cases and begin the sclerosing method and use care, you will see that it has many advantages over the operative method, especially from the standpoint of mortality, which is the real big factor. I believe that you will all eventually do as most of the large clinics are doing, adopt this method.

It hasn't been so many years since radium replaced surgery in the treatment of cancer of the cervix.

Then came the strapping methods, adhesive plaster, which has done away with skin grafting in a large percentage of our cases.

Citrate blood transfusion has almost completely supplanted the blood vascular surgeons who used to suture the artery of the donor to the vein of the recipient—and now this simple sclerosing treatment in varicosities is going to take the place of surgery in the treatment of varicose veins in the future.

QUESTION: I should like to ask if the doctor injects the vein when it is full or if he tries to get it collapsed as much as possible.

DR. NEWELL: If it is a very large vein and has a large amount of blood and I am using the quinine dihydrochloride solution, which is a concentrated solution, I permit the escape of part of the blood. On the other hand, if it is just an ordinary veins, one not very large and does not contain very much blood, and you do not think that it will dilute your sclerosing solution too much, then proceed with the amount of blood that you find in it. The more blood you have in the vein the safer it is, for you are not so liable to go through and puncture the back wall or let your needle slip out anteriorly while injecting and produce necrosis.

THE SURGICAL TREATMENT OF DETACHMENT OF THE RETINA*

E. C. ELLETT, A.B., M.D., AND R. O. RYCHENER, A.B., M.D., Memphis

THE treatment of detachment of the retina for so many years has been so notoriously disappointing that it is impossible to view with anything but hopeful interest the recent furor in the medical literature induced by the reported success in surgical treatment at the hands of Gonin and Sourdille. After the discouraging report in 1913 by Vail relative to all forms of treatment in which it was found that perhaps 1 per cent of detachments might be improved if nothing at all was attempted, it seems a far cry to the reputed "cures" of from 24 per cent to 50 per cent following surgical treatment. Where there is so much smoke, surely there must be some fire and it may be worth while to briefly review some of the better known methods in vogue.

At the time that Vail compiled his comprehensive report of the experience of his American colleagues with the treatment of this condition, the surgical procedure then in vogue was one devised by Deutschmann of Hamburg, called a "Durchschneiding", in which repeated attempts were made to cut so-called "traction" hands between the detached portion of the retina and the vitreous. Even then "cures" were reported by this method, but since Deutschmann has been quoted as being satisfied to report as cures cases in which reattachment took place even though there was no improvement in vision, the success of this maneuver must be taken with more than a grain of salt. This operation was based on the theory of Leber that the detachment was secondary to the formation of traction bands from the vitreous to the retina, which lifted the retina from its posterior bed. In 1916 he attributed the holes so often seen with retinal detachment to the retraction of new formed pre-retinal membranes.

Gonin of Lausanne has adopted practically the same theory attributing the detachment to vitreous degeneration and chorioretinal disease resulting in tears in the retina. He claims that the holes in the retina cause the detachment and that closure is necessary to insure a cure. His method of treatment consists in exact localization of the hole, a scleral incision over the detachment and then an application of his special thermocautery through the incision to the retinal tear, the idea being to seal the hole by the cauterization and resultant inflammatory reaction. In 1928 he reported the treatment of 59 such holes with 5 negative and 7 uncertain results. Unfortunately nothing was said concerning the visual results which to our mind are a most important item.

In 1920 Sourdilles of Nantes began to practice a method of treating detachment of the retina based on his idea of the pathogenesis of the condition. He believes the detachment is due to a weakness of the adhesion between the pigmented epithelial layer and the rest of the retina and the presence of a fluid between the two. The object of his treatment is to evacuate the fluid and provoke a firm and lasting attachment between the separated retinal layers. He pays no attention to the presence or absence of retinal tears and evacuates the retinal fluid by scleral incision and provokes a reaction by the galvanocautery in small detachments and the subconjunctival injection of 1-1000 cyanide of mercury solution in larger ones. He does not hesitate to attempt reattachment in old cases, some of 3 to 6 months or more, though the more recent cases are, of course, more favorable. He claims to have operated 169 cases out of about 500 seen in public and private practice since 1920 of which 62 were cured with enough useful vision to enable them to do their work. After six months of reattachment he does not fear a relapse.

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*Read before the Eye, Ear, Nose and Throat Section, Tennessee State Medical Association, Knoxville, April 14, 15, 1931.

In the face of such reported success we have felt compelled to attempt some such procedures especially in view of the fact that we had no alternative to offer. Of course, 1 per cent may get well if nothing at all is done, but the reported higher percentages of cures following surgery has led us to advise it as probably the procedure we should request if we suffered a similar disability.

Since 1928 we have treated surgically 9 cases of detachment of the retina, as follows:

Case I—M. A. W., male, age 19, detachment in each eye. Seen April, 1928. Four years before this he was struck in OS with eraser in schoolroom with visual loss following. Four months before he was seen vision gradually failed OD.

V OD = M. O. OS = 1/200.

Oph. OD Retinal detachment down and out.

OS Almost complete detachment.

Treatment—April 6, 1928. OD Exposed lower center quadrant OD and with actual cautery made three parallel lines in sclera. Then punctured sclera and let off the subretinal fluid.

April 9, the detached retina seemed flatter.

April 13, V OD 15/100. Oph. same. OS 2/200.

April 14, OD punctured sclera down and out with graefe knife sliding conjunctiva over before incision. Evacuated some fluid.

April 18, V OD 15/100. Oph. same. No improvement in detachment. OS 2/200. Visual fields very slightly enlarged.

March 16, 1931, by letter, vision same as when he left.

Case II. M. B., male, age 36, seen August 26, 1929, twenty-four hours after blur was noticed in OD. V = 20/20. Sersus detachment temporally and below small retinal hole up and out.

Treatment—Rest in bed, atropin, diophoresis.

Sept. 16, V = 5/200, detachment invading macula.

Oct. 9, Gonin Ignipuncture, up and out.

Oct. 15, V = 15/200, Oph. same as before operation.

Nov. 9, Gonin Ignipuncture, below.

Nov. 14, vision same. The two holes burned in retina were well seen with +8. Detachment sloped down to disk.

March 1, 1930, the visual field materially increased in size. V = 10/200 + 1 Sph. = 15/100. The retina was less prominent except way below where there was an abrupt passing forward to +12.

Oct. 18, 1930, V = 5/200 + 1 = 15/70—1. Oph. about the same.

Case III. W. M. P., male, age 24, OS detachment following trauma eleven years previously. V OS 5/200. Retina detached all around. Color was good except way in where it was gray and there seemed to be some choroidal disturbance there. Four or five disc diameters above the disc a faint band crossed eyeground, slightly curved horizontally.

Nov. 11, 1929, Gonin Ignipuncture, incision through sclera down and out. Subretinal fluid and vitreous ran out.

Nov. 16, V 8/200, unimproved. The retina seemed flatter but still detached. The highest point was where retina was cauterized.

Nov. 20, Oph. same.

Case IV. C. O. K., male, age 27, OD, vision bad for about two years. V OD = 10/200, OS 20/20.

Oph. OD. Retinal detachment lower outer quadrant. Some white spots on retina but no definite hole. The detachment was gradual from disc reaching +8 at extreme limit of visibility. Area of choroidal atrophy up and in.

Dec. 9, 1929, Gonin Ignipuncture, down and out.

Dec. 16, OD 15/200. Detachment same. The cautery puncture was visible. The visible field was slightly enlarged.

Dec. 26, OD 15/100 + 1.50 Sph. = 15/70. Oph. same.

Case V. S. W., female, age 14, high myopia, refracted several times, best vision with correction 20/70 each eye. Vision suddenly failed March 15, 1930.

April 2, 1930, retinal detachment down and in overlapping optic disc. V = M. O.

April 4, Gonin Ignipuncture. Rest in bed 8 days.

April 13, V 3/200. The detachment curved downward sharply at the nasal end and was better to that extent. Fundus seen with —10, detachment with —4.

April 18, detachment more swollen and more prominent. Fundus with —10, detachment with —1.

Sept. 8, 1930, V = M. O. Detachment down and in seen with +16 peripherally, decreasing in rippling folds to entirely cover disc. Remainder of retina from 7 to 4 o'clock in place at level of —10.

Case VI. C. M. W., male, age 54, found vision OS had failed two weeks before coming to office, April 29, 1930. V OD = 20/20. OS = M. O. Oph. OS Retinal detachment of whole upper half down to the disk. Up and out there was a well defined large hole at the limits of the visible fundus. Refused ignipuncture.

July 5, he returned to the office because of failure of vision in OD two days before. V = M. O. each eye.

OD Retinal detachment up and temporally with hole in retina at 10 o'clock at limit of visible fundus.

OS complete detachment all around. Large tear at 1:30 o'clock.

July 7, OD Gonin Ignipuncture.

July 14, home, vision same, detachment same.

July 20, OD 20/70, visual field slightly enlarged. Detachment persisted up and out to within two disc diameters of the optic disc, but much less prominent down and out from the disc.

July 27, OD 20/40 P—1.00 Cyl. Ax 150 = 20/25 perfectly.

Oph. OD about same with a second smaller tear at 8:30 o'clock. OS as before.

August 4, daughter said sight failed soon after patient reached home after previous visit. Had ridden forty miles in auto over rough roads.

Aug. 9, V OD 4/200, unimproved. Oph. same. Rest in bed one week.

Aug. 25, V OF 10/200 + 3 Sph. = 20/70. A large triangular rent in retina between 9 and 11 o'clock extending to ora serrata.

Aug. 26, V OD, counts fingers at 2 feet.

Aug. 27, OD Gonin Ignipuncture, 12 mm. from limbus 9 o'clock.

Aug. 29, OD V OD, counts fingers at 3 ft.

Aug. 31, OS Gonin Ignipuncture up and out.

Sept. 3, OD V OD, counts fingers at 6 ft. Detachment up and out same. Macula smoother.

Sept. 7, OD 20/70 + .75 Sph. = 20/40 partly. OD detachment seemed increasing nasally from above. OS no change in detachment.

Sept. 22, reported by letter that vision had failed.

Oct. 20, OD complete retinal separation except at disc and a small area temporally to disc. OS Oph. same.

Case VII. A. V. W., female, age 48, seen Nov. 6, 1930, stating that she awoke to find a veil over vision OS, four days before.

V OD 20/25 P with correction.

OS M. O. unimproved.

Oph. OS retinal detachment all the way across fundus below with rent in retina peripherally at 6 o'clock.

Nov. 8, OS Gonin Ignipuncture below.

Nov. 16, home, Oph. same. The cautery did not reach the tear by about one disc diameter.

Nov. 24, Vn OS—6 Sph. = 6/200. Oph. same.

Dec. 9, Vn OS + .75—3 Cyl. Ax 180 = 15/100. Detachment same.

Jan. 9, 1931, Vn OS 20/200 + .75—3.50 Cyl. Ax. 170 = 20/70. Visual field markedly improved.

Feb. 10, Vn. OS 6/200 + 1.25—3.50 Cyl. Ax. 170 = 20/200.

Detachment persisted and seemed greater in lower half of fundus. Advised reoperation.

Case VIII. W. F., age 44, struck OD with handball. Was wearing glasses which were knocked off his face but unbroken, and was not concerned at time with trauma of eye. Next morning noticed blurred vision, but did not consult oculist until one week later.

Feb. 4, 1931, OD V OD 5/60—1.00 Sph. —3.50 Cyl. Ax. 100 = 20/25. OS 5/60—1.00 Sph.—4.00 Cyl. Ax. 70 = 20/25.

Oph. Retinal detachment in disc was covered by a fold of retina which was torn loose vertically from the ora serrata from 1 to 4 o'clock; attached only at the two ends.

Treatment—Rest in bed with atropin and bandage.

Feb. 4, the whole detachment looked different, there being then a second lobe of detachment in upper fundus.

Feb. 14, there was no improvement under supine treatment, the patient not cooperating in maintaining immobility of the head.

Sourdille's operation under HMC/1 and local anaesthesia. A conjunctival flap was raised upward and two scleral punctures with evacuation of much fluid mixed with vitreous. A fresh flap was raised nasally with another scleral incision and liberation of fluid. Conjunctiva was closed and 2 c.c. of 1-1000 cyanide of mercury solution injected under the conjunctiva above and nasally.

Feb. 15, much chemosis of conjunctiva and lid, but very little pain. Kept in bed on back and left side.

Feb. 16, the detachment could not be made out with ophthalmoscope.

Feb. 18, removed sutures. Chemosis disappearing.

Feb. 21, small detachment inward.

Feb. 23, detachment up and out.

Feb. 26, home, rest in bed.

Feb. 28, retinal tear again visible far forward nasally.

March 3, large detachment above with +15.

March 14, V OD—1 Sph.—3.50 Cyl. Ax. 100 = 20/200.

Detachment hangs down from above as a large lobule covering disc and most of macula.

To operate again.

Summary—In eight patients with ten retinal detachments seven idiopathic and two traumatic detachments were surgically treated, one old traumatic detachment being left alone. Of these central vision in three cases was slightly improved as follows:

Case I—Improved from M. O., unimproved, to 15/200, persisting after three years.

Case IV—Improved from 10/200, unimproved, to 15/200, corrected to 15/70.

Case VII—Improved from M. O., unimproved, to 20/200, corrected to 20/70, later dropping to 6/200, corrected to 20/200.

Four idiopathic cases and one traumatic case were unimproved in the final analysis, one of the former being temporarily improved to 20/25 with correction, but ending finally in total detachment.

One recent traumatic case still under observation has gotten worse under treatment, but it is our opinion from the nature and position of the detachment that this would have been a natural consequence without surgical treatment.

In no case have we obtained a reattachment of the retina which would in any way suggest the possibility of a permanent cure.

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DISCUSSION

DR. R. H. NEWMAN: In the past few years much has appeared in literature in regard to the surgical treatment of detached retina . . . the Gonin cauterization treatment of the retinal tear being invariably the subject.

They have reported some wonderful results in the re-attachment of the retina in these cases, but as Drs. Ellet and Rychener have mentioned in their paper, little has been said about the visual results, and, after all, that is the most important part of the treatment. Whether the retina re-attaches or not is not of so much interest to the patient and the eye physician as the amount of vision recovered. Whether a man sees 1-200 or 10-200 makes very little difference.

So when I received the title of this paper, and the advance copy I was very much interested to know the results obtained by the authors, and it seems from their results that this treatment is merely another effort to correct what has been considered an almost hopeless condition, and the results obtained are little, if any better, than puncture of the sclera by Ware in 1805, Von Graeffe's drainage, Ver Hoeff's posterior sclerotomy combined with electrolytic punctures and the pre-equatorial sclerectomy of Holth.

Where so many methods of treatment are recommended for a condition it must go, without saying, that none of them are satisfactory.

I had hoped the Gonin treatment would be the answer to the Ophthalmologist's prayer, but I was skeptical about the general results, as the retinal detachment is not the disease entity, it is only a symptom and result of an abnormal condition of the vitreous and aqueous.

All the theories for the cause of this retinal detachment are not without merit: the shrinking of the vitreous, the pull of the adhesive bands, the arrested secretion of the cilliary body, the abnormal secretion of the choroidal vessels, of a fluid more albuminous than the vitreous humor, are reasonable causes of this detachment.

All are practically agreed that a retinal tear is present in all of these cases and in some or all of these theories must be the true cause of detachment. The minus tension of practically all of these eyes indicates a lack of proper support of the loosely attached retina. With this condition existing it is very easy to see how a small jar would readily cause the prolapse. The treatment, heretofore, has been along the same line as outlined by Gonin and results have been reported with all these different treatments approaching his successful results.

It is not improbable the cauterization, in an effort to close the retinal tear, may divide the fibers connecting the retina to the shrunken vitreous, which has been mentioned as a cause, and efforts have been made to divide these fibers, by Deutschmann and others.

If a re-attachment can be secured soon after the prolapse it is probable that some part of the vision may be recovered, but after the prolapse has existed for several months with a natural deficiency in the neutrition of the retina I cannot see how it is possible for the retina to regain anything like its normal function.

I must confess I have not attempted this operation and personally, I believe it will become a matter of history, like other such attempts, but the effort is worthy of our commendation. Personally, I am gratified to know that men in our own state have had the temerity to try this operation, and knowing their standing in the profession as I do, I think we can take their results as comparing favorably with any of the others who have done this operation, both at home and abroad.

In an editorial in the April issue of American Journal of Ophthalmology, Edward Jackson says: "Whatever may be the final judgment on Gonin's operation, it has brought hope to the profession, an attitude from which more good can be expected than from the pessimism that followed the failure of other operations to secure re-attachment."

Unless more vision can be recovered by this operation I, personally, believe that it will be listed with others who have tried to accomplish this same result and their method has gone into the discard. Eye operations are made chiefly to recover vision and for cosmetic purposes. The last mentioned is not necessary, therefore, we have only one object in view; that is, the recovery of vision, and so far as this operation fails to improve the vision, so far has it failed entirely.

DR. H. C. SMITH (Nashville): The theory regarding the cause of retinal detachment and the operation devised for its cure by Professor Gonin seems quite logical. According to Gonin, the success of the treatment lies in the careful selection of cases, the accurate localization of retinal tears, and the exact application of the cautery to the tear. The most favorable cases are recent ones which present a single, small tear in the retina located well anteriorly, at, or near, the ora serrata. Multiplicity of tears, extensive detachment, and posterior position of the tears render the treatment less efficacious.

Professor Gonin claims success in 60 per cent, and Professor Vogt, of the University Eye Clinic at Zurich, in 50 per cent of recent cases. British and American ophthalmologists have but comparatively recently directed their attention to the surgical treatment of retinal detachment, and, as yet, they do not offer definite statistics of results. However, the Gonin operation is apparently more in favor with them than that of Sourdille. Having had no experience with the Sourdille method, I am unable to discuss its merits. It seems, however, that in cases presenting tears of the retina Gonin's procedure should take precedence.

The slowness of American surgeons to attempt the surgical treatment of detachment of the retina renders the report of Drs. Ellett and Rychener extremely interesting. In spite of their statement that in no case have they obtained a re-attachment that would in any way suggest the possibility of a permanent cure, the fact that they have been able to produce enlargement of the visual field and improvement of central vision, if only for a limited time, is important. The cases in which they report improvement are particularly interesting because two of them could not be classified as recent cases; and one of them, in which no tear was found, was treated by Sourdille's method, while the others, showing tears, were treated by the method of Gonin. I do not believe, however, that any instructive comparison of the operations can be drawn from the report.

The case in which remarkable improvement was gained, only to be lost after the patient had ridden home over a rough road, illustrates the necessity of enjoining quietness upon the patients for some time after the operation has been performed. In those I have seen, the patients were kept in the hospital at least two weeks following the operation. During the first week, the patient's head was kept in such a position that the weight of the intra-ocular contents would fall against the detached part of the retina. A bowel movement was not allowed until the seventh day.

Schonberg of New York has reported ten cases that were treated surgically by himself and Dr. Arnold Knapp at the Knapp Eye Hospital in the Archives of Ophthalmology for June, 1930. The cures, as he states, can hardly be called such until the patients have been observed through a longer period of time. In view of the newness of the procedure among us, it cannot be thought that results are discouraging. Dr. Ellett and Dr. Rychener are to be congratulated upon this, the first, report of such cases before this Society.

DR. WILLARD STEELE (Chattanooga): It has long been my conviction that unless one had a better religion or creed to offer than the one then accepted, it was wise to make no change. Still if new theories should be advanced which showed a marked superiority to the old ones, then by all means accept the new.

In the management of detachment of the retina we have floundered around in the morass of impotency for years and now when we have offered a guide to deliver us we should whole heartedly investigate what is offered, and listen carefully to his advice. Gonin has offered us a new method that gives us such hope in the treatment of this condition of detachment of the retina, that we should all offer it to our patients.

As mentioned in the paper of Drs. Ellett and Rychener, about one per cent of all cases of detachment were cured, previously, and I doubt if anything we did medically or surgically had anything to do with the cure, just as large per cent would have made a spontaneous cure if nothing had been done.

Now comes along Gonin and others of international repute that show as high as 40 per cent to 60 per cent of cures in recent cases. This per cent may be too high, still it is a wonderful improvement over one per cent. No longer is it necessary to confine our patients to dark rooms, absolute rest and bandaged eyes, for weeks or months at a time. The length of treatment is much shortened and the percentage of cures vastly increased over the old methods.

Gonin does his cautery puncture, and others, especially Sourdille, of Nantes, uses both the cautery and injection of cyanide of mercury 1-1000. Gonin claims that the tear in the retina must be localized carefully and that point sealed thoroughly, while Sourdille and Findlay, of Havana, Cuba, in a recent article in the Archives of Ophthalmology, state that it is not essential to locate the tear, but by cautery puncture or injections, to re-attach the retina at different points with adhesions thus formed.

I have had the pleasure of seeing a case operated on by Drs. Ellett and Rychener, and the results were most gratifying, so much so that while I personally have not had any experience with the methods described, I feel I should offer it to my patients, and shall until something better is presented to us.

I wish to thank Drs. Ellett and Rychener for presenting this most interesting subject, thus to stimulate our interest in a matter that will be often and freely discussed in the literature in the future.

TREATMENT OF LEUCORRHEA*

JOHN C. BURCH, M.D., F.A.C.S., Nashville

LEUCORRHEA is an important subject to the practitioner as well as to the specialist. It is to the practitioner that the patient first turns for relief of his most distressing condition. Leucorrhea means any whitish discharge from the female genitalia. It is commonly known among women as "whites". Normally there is a secretion from the uterus, vagina, and Bartholin's glands. These secretions are not normally enough to call the attention of the patient to their presence. Under conditions of sexual excitement the secretion may be quite marked in amount. Just before the menstrual period and after the period a slight increase in the amount of secretion may be noticed. This is not an abnormality and is due to physiological causes. The common causes of leucorrhea are:

1. Lacerations and Erosions of the Cervix.
2. Gonorrhea.
3. Trichomonas vaginalis.
4. Non-specific or mixed infection of the lower genital tract.

The origin of most leucorrheas is below the level of the internal os and rarely do we find a discharge coming from the body of the uterus or from the tubes. Lacerations and infections with erosion of the cervical mucous membrane is perhaps the most common cause of leucorrhea. They are the result of either child birth, abortion or instrumentation. In these conditions the cervix is torn and there is a prolapse of the mucosa of the endocervix on to the vaginal surface of the cervix. Erosion accomplishes the same result by healing the small ulcer with a downward extension of the endocervical epithelium. An erosion and a laceration have many points in common. Their treatment is much the same. Both are focal points for an infection. Chronicity is their main characteristic. Leucorrhea is their main symptom. There may be associated symptoms of pain in the lower abdomen and pain in the back. These symptoms, when seen with an erosion or laceration, indicate either a prolapse of the uterus or extension of the inflammation into the utero-sacral ligament or the cardinal ligaments. The normal reaction of the endocervix is alkaline, that of the vagina is acid. When an erosion is present it indicates that cells which normally live in an alkaline medium are able to live in acid. This is usually the result of an excessive outpouring of alkaline secretions from above and neutralization of the acid. The vagina does not tolerate this change in its normal reaction. The resistance of the vagina to infection is lowered.

It is not necessary to dwell upon the relationship of laceration and erosion to carcinoma of the cervix, except to state that the best treatment of carcinoma of the cervix is to prevent its occurrence by destroying its breeding ground which is in these conditions. The cure of most of these lesions is remarkably easy. It can be accomplished in the office of any physician with surprising ease and most gratifying results. Severe cases, however, occasionally require amputation; 70 to 80 per cent require nothing but simple cauterization of the cervix. This can be done without an anesthetic and anywhere a cautery or hot iron is available. It is not necessary to have expensive equipment. An ordinary knife blade, heated in an alcohol flame serves fairly well in place of a more expensive instrument. The strokes of the cautery should radiate from the cervical os as the spokes of a wheel radiate from its hub. The treatment can be done without anesthesia and is not at all painful. It is best, when doing this in the office, to only cauterize one-fourth or one-half of the cervix at any one treatment.

Following cauterization of the cervix an extensive hemorrhage is rare. Mild hemorrhages occur fairly frequently. These come on in about two weeks from the date of the treatment. The hemorrhage is the result of the slough coming away from the cervix. The patient should be warned of this or otherwise she may think her period is coming on too soon. Following cauterization a lactic acid douche is a helpful adjuvant.

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Gonorrhea is the next most frequent cause of discharge. In studying these cases one should always take a smear from the cervical secretions, and from the urethra and examine it for the presence of gonococcus. If gonococci are present there can be no doubt as to the diagnosis, but in their absence one may still suspect gonorrhea. A negative smear does not mean anything unless repeated a number of times, while a positive smear suffices for the diagnosis. In the treatment of gonorrhea the important thing to realize is that the main focus of the disease is in the cervix. The tubes are only involved after the cervix has become infected. Nature is well able to handle this tubal infection. The recurrent attacks of salpingitis are the result of repeated re-infections from the cervix and are not the result of an exacerbation of a latent infection in the tubes. Removal of gonorrheal pus tubes does not cure the lower genital tract infection. It simply removes a portion which may become again infected from the already persistent focus in the cervix. In the Vanderbilt University Clinic we have adopted a policy of non-operative treatment of tubal lesions, however, we do operate on the cervix. This operation is simply an extensive cauterization of the endo-cervix after antero-posterior bisection of the organ. After the cauterization the cervix is sutured. Following this method of treatment our results have been excellent. The discharge is cured, the smears become negative and the patient remains well unless reinfection takes place.

Increasing experience in the treatment of gonorrhea suggests that reinfection is the main problem in this disease. It is extremely difficult to cure this disease unless the problem of reinfection is appreciated. It is easy to see while if one should cure the wife of a patient infected with gonorrhea, and the husband was not treated, that at the first intercourse the wife would again be reinfected. In this phase of the subject lies the discouraging feature of the disease and we have refused to treat patients whose husbands would not cooperate in having themselves adequately treated. In those patients who for one reason or another refuse the cervical operation, but abstain from sexual relations with simple treatment, good results have been obtained by topical applications, douches and abstinence in some cases.

In the past several years a great contribution to this subject has been made by Greenhill, Davis and others by their descriptions of the trichomonas vaginalis. The trichomonas is a small flagellated protozoan which lives in the low intestinal tract. In that location it is known as the trichomonas fecalis. The trichomonas vaginalis which is found in the vagina has many of the characteristics of the trichomonas fecalis. The organism is readily seen in a hanging drop of vaginal or cervical secretion. It is easy to identify on account of its rapid movement and typical method of locomotion. The discharge from these cases is frequently of a greenish nature and of a foaming consistency. It is particularly irritating and gives the patient the sensation of itching around the vulva. The discharge may be present in large amounts. On digital examination nothing is observed, but with the speculum in the vagina, the vagina is found to be very red and the cervix also. There may be coincidentally a laceration or an erosion of the cervix. The diagnosis having been established by finding the organism, treatment is carried out in a number of ways. We have found that by simply washing the vagina with green soap, cleaning it well and then applying a tampon saturated with mercurochrome, that good results can be obtained. Patients are put on a lactic acid douche. This douche is used twice a day, two teaspoonsful to the quart, taking it as hot as it can be comfortably borne. For those patients who are so situated that douching is an inconvenience we have found the employment of a lactic acid jelly such as that commonly used for contraceptive purposes, is very effective in these cases. The discharge clears up almost miraculously and the patient is markedly improved locally as well as mentally. Many of these patients come to the physician thinking that they are the victims of gonorrhea. The disease, however, is prone to recur. After treatment is stopped it may return after two or three months. To avoid this a douche should be taken with lactic acid in water at least three times a week. This method of treatment has proved exceedingly satisfactory to us—I can wholeheartedly recommend it. This type of vaginitis is a very common lesion, one which should be recognized by every physician.

By non-specific or mixed infection of the lower genital tract is meant any infection of the lower genital tract which is neither gonorrheal nor luetic. Needless to state we have a variety of these. Usually they are transitory and clear up by themselves. Occasionally we find a severe mixed infection in a badly infected or lacerated cervix. The treatment in these cases is simply the treatment of the laceration which is after all the focus of the infection.

In conclusion I should like to call attention to the necessity of a thorough examination of all patients suffering with leucorrhea. Smears for gonorrhea and hanging drops for trichomonas vaginalis are part of the routine examination. In cases of ulceration and laceration of the cervix if the examiner is unfamiliar with the exact type of pathology present, a biopsy is urgently indicated. Inspection and palpation together with these simple tests will establish the diagnosis in almost every case. The treatment depends upon the type of pathology found. The treatment has been briefly outlined.

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DISCUSSION

DR. BYRD S. RHEA (Lebanon): The subject which Dr. Burch has brought to our attention is certainly a very interesting one, but one in which I am not very interested myself because it is something I do not treat. It hardly comes in the scope of my practice. I am acquainted with Dr. Burch's method of procedure and I want to emphasize that, when we do see these cases of leucorrhea, the thing that impresses me that should be done is the biopsy, as he urges, so that we may be able to catch a great many early cases of malignancy which we know only yield to surgical methods in the very early stages.

The thing that strikes me about the Doctor's paper is the authority with which he speaks, which I like in an essayist, and not in a hesitating way, but he speaks as if he knows what he is talking about, and I am satisfied that he does.

DR. R. L. SANDERS (Memphis): I wish to commend Dr. Burch for presenting this commonplace subject to us today. No question is more apropos. I dare say most of us are called on almost daily to treat leucorrheas. Few of us become so specialized but that women patients sometimes consult us on account of a troublesome discharge.

Dr. Burch has aptly said that we should first find and properly treat the cause. I am pleased to commend his method of treatment by the cautery. It is the most useful of all remedies in the management of leucorrhea. Many operations have been devised and recommended, but after all, a simple cauterization of the cervix without anesthesia, while the patient is on the office table, is the most satisfactory treatment in the majority of cases.

Dr. Burch and his father have been using a splitting type of operation to effect thorough sterilization of the cervical canal. We have not found this necessary in our cases. It is true the endocervix and its group of racemose glands retain infection for a long time in many instances, but as a rule the application of four linear incisions with the cautery and a slight dilatation of the cervix will suffice to clear up infection. A good speculum, a satisfactory light, and a hot iron are the instruments required. After a thorough cauterization, the cervix should be left alone.

I am sure this excellent remedy has been overlooked by many physicians, and such a timely discussion as Dr. Burch has given us today will serve to bring it to our attention and into more common use.

The essayist called our attention to the trichomonas type of infection in the vagina, which is probably very important. The pathogenesis of trichomonas vaginalis has been questioned, although most gynecologists believe that the morbidity is much greater when that organism is present. The treatment Dr. Burch has outlined is very effective. It should be carried out persistently, however, until cure is complete.

Mr. Chairman, I desire to thank Dr. Burch again for his splendid presentation.

DR. P. C. SCHREIER (Memphis): The point that Dr. Burch brought out about the trichomonas vaginalis, especially Dr. Burch's technic of routinely looking for this trichomonas, is very important, because I think we can cauterize and fail to get results when the trichomonas is present unless we use some measure which is directly against the trichomonas. Cauterization itself is not directed against trichomonas.

In my experience, the most troublesome type of cervix has been the nulliparous type of cervix with a very small os in which you cannot get the cautery to go beyond the external os in order to get into the glands of the cervix.

I am familiar with Dr. Burch's advocating the splitting of the cervix, but I have not resorted to that. In a number of cases I have dilated the cervix with Goodell's dilators to the point where I could satisfactorily cauterize the inner surface of the cervix very deeply, and thus far I feel that this has given me very satisfactory results, but probably if I followed his technic and split the cervix I might get better results.

I was interested in the simplification of your treatment for trichomonas, because the literature abounds with very complicated treatment, and some are very discouraging, saying that you get no permanent results regardless of the treatment.

As I gather the treatment, the cleansing with green soap and following up with mercurochrome and then the lactic acid douches, certainly would be a very helpful factor, and I want to thank Dr. Burch for that suggestion.

DR. C. R. CRUTCHFIELD (Nashville): I appreciated Dr. Burch's excellent presentation of this subject of leucorrhea. Formerly leucorrhea was not evidently considered a serious matter. Women would come into a doctor's office and complain of leucorrhea, and he would say, "How bad is it?"

"It is awful bad."

"Well, how bad?"

"Well, pretty bad."

"Well, does it run down into your shoes?"

"No."

"Then it ain't so bad." And they wouldn't treat them. At the present time I think it is a subject which should be treated and not treated slightly, because it may or may not be a serious matter.

As Dr. Burch has brought out, it is a physiological condition associated with menstruation, and, of course, in these times of stress and strain there may be more at one time and more at another, and it may not be serious, but again it may be serious and of important value.

With regard to Dr. Burch's method of splitting the cervix to cure gonorrhea, I think there are very few men who are heroic enough to undertake it in private practice. Most of us, as Dr. Sanders said, use the multiple stellate cauterizations, and with good results.

A few cases that I have treated have had some stenosis following this, and the Outerbridge pessary, worn for some time, will relieve those cases and will make them comfortable.

With regard to biopsy, to the ordinary person who is not familiar with taking a biopsy a negative report does not mean much, it does not mean that the man who makes the report has made a mistake. It means that the patient may have cancer, and you may get a piece of tissue that is not cancerous tissue. I see a number of cases that have had negative reports and yet on examination of the patient they claim they have a cancer and we get a piece of tissue that no doubt is cancerous tissue and the pathologist will report malignancy.

I think in the biopsy one should get the malignant tissue and send that to the laboratory, and send them enough so that they can make a diagnosis.

Sometimes cauterization of the cervix will not relieve all of the leucorrhea. Sometimes you get a second-hand infection in the endometrium and you get an old chronic infection in the tubes which will drag on and keep up your leucorrhea. A great many of these patients have foci of infection there that is responsible for rheumatism, asthma, and what-not. In order to relieve them of their other symptomatology, you have to do a curettage, and in some of them you may have to remove the tubes and ovaries to get rid of the infection. You will be very much gratified, in some of those cases, in curing the leucorrhea at the same time.

DR. H. C. GAYDEN (Nashville): I rise to make emphasis on just one point. I am an urologist who still treats venereal disease for a living. I have no apologies to offer for that, because I think that is probably where most of them should be taken care of. I think they need sympathy more than anybody else. When we realize that 474,000 people in the United States are being treated annually for venereal disease, then we should take it more seriously and try to make diagnoses more correctly and exact so that we may determine how to take care of these social lepers who are going from place to place, re-inoculating or inoculating innocent human beings and coming to doctors and describing their own symptoms, diagnosing their own cases, and the doctor prescribing permanganate potash douches as a rule, or something that looks good on paper, and they take douches continuously for years.

I do think that most of these non-specific cases, so-called (as we divide them into two big classes, the specific and the non-specific), usually may be taken care of by simple methods, but with those which are specific, if not diagnosed by microscope, you can't tell all the time which is which, because they take douches all along at home and may keep a specific infection from showing in its worst form.

The cautery is applied to almost any and all the cases. Even with a specific gonorrhea the cautery will work them out sometimes. John and I have had some cases together, he treating one side of the family and I treating the other. We have had a hard time deciding which is which and who is responsible for it. We work these things out in detail, and if we look out for the enormous number of gonorrheal infections we will do the human race a wonderful good and give sympathy where sympathy is due, keep families together. save homes, and save a lot of fatherless children, blindness, and a lot of things that we may review, as you all know.

DR. JOHN C. BURCH (Closing): I am very grateful for the discussion of the paper. My idea in presenting the paper was simply to outline a few suggestions which I thought might be helpful in treating patients that come to the office. It was not my intention to go into the merits of the treatment of gonorrhea, but I will state that in the Vanderbilt University Hospital for the past five years no single case of salpingitis has ever come to operation. I believe our results are just as good, if not better, than where more radical means are employed.

Of course, we have bad results. Everybody has bad results. I see numerous cases where the tubes and ovaries have been removed and where the patient still has many of her complaints. Conservative treatment gives just about as good results, if not better.

I should like to emphasize two or three points. First, the necessity for thorough examination; second, the wider use of the cautery, and especially stress that the cautery is an instrument which can be used efficaciously in the office. It doesn't have to be used in the operating room. It can be used anywhere where anybody can get heat, and it doesn't take a special amount of training to use it. Anybody can learn to handle it and anybody can get good results with it.

The next thing I wanted especially to call attention to was the necessity of considering the factor of re-infection of gonorrhea in women. It is absolutely foolish to treat a woman with gonorrhea unless you get at her source of infection. She must understand what is her trouble. Unless this is done, your treatment will be of no avail and you will fail miserably in the case.

The next point that I wanted to again mention is the lactic acid douche for trichomonas vaginitis. There have been many methods of treatment in this disease. But I have found the lactic acid douche very satisfactory.

I have seen several cases of atresia of the cervix following cauterization. An atresia can usually be opened up by putting a small pair of hemostats into the mouth of the cervix and spreading the blades. This repeated two or three times usually results in a cure.

CORONARY THROMBOSIS*

O. N. BRYAN, M.D., F.A.C.P., Nashville

CORONARY thrombosis with infarction of the heart has been classified as one of the rarities in medicine until within recent years. It is now being diagnosed quite frequently. It is also known as coronary occlusion and cardiac infarction. The obstruction of the coronary artery is usually acute and involves one of the branches of the coronary artery and results in infarction and death of the heart muscle supplied by this occluded vessel. In recent years there have appeared many articles on this subject and many cases reported. It is not a new clinical entity, but one that is being recognized now as a distinct clinical entity. It is not diagnosed many times because of the sudden death of the individual and no doubt many of these cases have been diagnosed as angina pectoris. It presents an interesting problem in differential diagnosis, because of its close resemblance to acute diseases of the chest and abdomen. It has been mistaken for pneumonia, pleurisy, acute cholecystitis, pancreatitis, and perforated gastric or duodenal ulcer. Occasionally the abdomen has been opened with negative results, and if due consideration of coronary thrombosis had been given, it would not have been opened.

Coronary thrombosis occurs most frequently between the ages of 50 and 70. It is seen between 40 and 50 but is rarely reported under 40 years of age. Levine reports only three instances between the ages of 30 and 39 in an analysis of 145 cases. Men are affected three times as often as women.

Wearn (Amer. J. Med. Sc. 1923) says that until recent years the literature yielded little on this subject, however, he quoted Harvery as reporting a case that was almost certainly one of coronary thrombosis as follows: "A noble knight, Sir Robert Darcy, an ancestor of the celebrated physician and most learned man, my own dear friend, Dr. Argent, when he had reached to about the middle period of life, made frequent complaint of a certain distressing pain in the chest, especially in the night season; so that dreading at one time syncope, at another suffocation in his attacks, he led an unquiet and anxious life. He tried many remedies in vain, having had the advice of almost every medical man. The disease going from bad to worse, he by and by became cachetic and dropsical, and finally grievously distressed, he died in one of his paroxysms. In the body of this gentleman, at the inspection of which there were present Dr. Argent, then president of the College of Physicians, and Dr. George, a distinguished theologian and preacher, who was the pastor of the parish, we found the wall of the left ventricle of the heart ruptured, having a vent in it of the size sufficient to admit of any of my fingers, although the wall itself appeared sufficiently thick and strong; this laceration had apparently been caused by an impediment to the passage of the blood from the left ventricle into the arteries." Morgagni, Heberden, and Caleb Hillier Parry were among the first to associate anginal pain with lesions of the coronary arteries, and in more recent years Leyden, Kernig and Pawinski reported pericardial friction rubs following angina. Gorham reported several cases of cardiac infarction in which a friction rub was to be heard. Dr. George Dock was one of the first to emphasize the possibility of diagnosing coronary thrombosis before death (1896). He was the first to recognize the true relationship of pericarditis to the syndrome. We are indebted to Osler for the correlation of the clinical and pathological findings. Herrick and his co-worker have made a careful study of the clinical features of this disease. He emphasized the facts that this condition can be justifiably diagnosed without necroscopic verification and that the condition does not by any means always cause death.

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16, 1931.

Etiology: Much effort has been put forth in trying to establish etiological factors in this disease. It is known to be more frequent in the higher than the poorer class of patients, however, cases have been met in all types of patients from the highest to the lowest. No definite relationship can be established between the infectious diseases such as rheumatism, chorea, diphtheria, scarlet fever and syphilis, or the drugs such as tobacco, tea, coffee and alcohol, as etiological factors in coronary thrombosis. In Wearn's cases it is stated that the final cause of the infarction in every case was coronary arteriosclerosis. The causes are those of vascular hypertension and arteriosclerosis. Most of these cases give a history of having had previous attacks of angina pectoris. A small percentage of cases occur in diabetics. Although syphilis is prone to attack the vascular system, it does not seem to cause cardiac infarction often. Certain cases occur in which no etiological factor can be elicited. The factors (bacterial, toxic and pyschic), therefore, which lead to arteriosclerosis or hypertension play an indirect part in causing cardiac infarction.

Herrick groups the cases into four clinical types:

1. Cases of instantaneous death, in which there is no death struggle, the heart beat and breathing stopping at once.

2. Cases of death within a few minutes or a few hours after the obstruction. These are the cases that are found dead or clearly in the death agony by the physician who is hastily summoned.

3. Cases of severity in which, however, death is delayed for several hours, days or months, or recovery occurs.

4. A group that may be assumed to exist embracing cases with mild symptoms, for example, a slight precordial pain ordinarily not recognized, due to obstruction of the smallest branches of the arteries.

Pathology: Coronary occlusion of one of the larger vessels occurs oftener than is generally recognized. The obstruction is usually due to the development of a thrombus in one of the coronary arteries or their branches. Rarely the occlusion may be from narrowing of arteriosclerosis. The thrombus is generally associated with atheromatous endarteritis, which may be localized in the heart or a part of generalized arteriosclerosis. Eggleston says, "The left coronary is the one most often involved. As a result of the obstruction there is an anemic infarct found, generally in the anterior apical portion of the left ventricle or near the base of this ventricle and in the intraventricular septum. The coronaries are not strictly end arteries, but their anastomoses are usually inadequate to assume the function of a large branch, such as the descending ramus. Communication through the Thebesian vessels may supplement the direct anastomoses between the right and left coronaries. The infarcted area undergoes necrosis with liquefaction and absorption. Healing takes place by the invasion of connective tissue and the formation of a scar. The heart may rupture at the site of the infarct, the scar which develops may stretch and form a cardiac aneurysm, or healing may be complete with the formation of a firm cicatrix."

Symptoms: The only warning of a coronary disturbance is the history of anginal attacks and a paroxysmal dyspnoea in a few of these cases. However, in a patient that has been having anginal attacks, when coronary thrombosis takes place it will soon be recognized as different from the preceding attacks. The big percentage of the cases will have practically no warning of the attack. Pain is the most prominent symptom. It usually begins without exertion or other assignable reason in sharp contrast to the pain of angina pectoris. It is sudden, sharp, knife-like, excruciating and constant as a rule. The pain may be in the epigastrium, the precordial region or anywhere in the chest. It may radiate to the nipples, one or both arms, shoulders or jaw, or it may be in all these regions at the same time. Dyspnoea is another early symptom and, infact, may be the most pronounced symptom. Following the pain and dyspnoea are nausea, vomiting and diarrhoea. Generalized sweating, cough, hemoptysis, cyanosis, aphasia, delirium, collapse and coma are found in some cases. The pain does not pass off quickly, but persists for hours or days and is not relieved by nitrites, but requires large doses of morphine or chloroform to relieve. In very rare instances occlusion is said to occur without any pain, there being only a vague sense of substernal discomfort or oppression. There are often symptoms of shock and collapse, such as the ashen pallor, cold sweat, clammy skin and a rapid, feeble pulse, which is sometimes scarcely perceptible. The attitude of these patients in the bed is interesting as compared with acute abdominal or acute respiratory conditions. In the abdominal and respiratory conditions they usually assume one position and remain quiet, while in coronary thrombosis they assume all kinds of positions without relief. A slight productive blood streaked sputum is often present as a result of the congestion in the lungs. In the cases with antecedent heart trouble the affect of the infarction is to accentuate those signs and symptoms already present. General weakness is usually marked to the extent that slight movements cause complete exhaustion. Some of these cases remain rational until death, while others are irrational most of the time. These patients show distress, anxiety and apprehension in their faces. The skin is ashen, cold and feels moist to the touch as one in shock. Wearn refers to a diffuse flushing of the skin early in the condition. The type of dyspnoea and color of the skin are helpful, but it is from examination of the heart and lungs together with the history of the illness that one can expect to recognize coronary thrombosis, with the resulting infarct of the heart. Rales in the bases of the lungs are heard as a result of early pulmonary oedema, secondary to the failing myocardium. The rales are usually confined to the bases of the lungs, however, they may be scattered throughout. Hemoptysis occasionally happens. Hydrothorax and ascites have been reported in these cases as a result of the failing myocardium. Finding rales in the bases is of great assistance in differentiating this condition from some of the acute intra-abdominal conditions and will often save the patient from an unnecessary operation. One is struck on examing the heart with the weak heart action, the heart sounds are faint, weak or distant, and often of a tic tac quality. A systolic murmur may be heard at the apex in about one-half of these cases. The pulse is weak, rapid, and may be alternating regular or irregular, slow or fast. When the infarction involves the upper part of the septum heart block may be present and the rate be very slow, whereas in simple angina there is seldom any change. The blood pressure usually shows a marked drop of both systolic and diastolic pressures from a previously normal or elevated pressure. The precordial activity is feeble. Pericarditis is claimed by some to be present in most of these cases and often a pericardial friction can be heard. The area of cardiac dullness is widened as a result of the dilitation of the left ventricle. Phelps refers to a reduplication of the first apical sound as indicative of ventricular hypertrophy on the verge of failure. The temperature is normal or subnormal at the beginning of an attack, however, within twelve to twenty-four hours there will be a rise from 99 to 101 F. and may last for several days. The respirations will be normal or rapid or may be of the Cheyne-Stokes type. The liver is greatly congested and distended which causes great pain. The heart failure signs will depend whether the thrombosis is on the right or left side of the heart; with left sided lesions (most often) the lungs will become involved quickly, but if the damage is on the right side of the heart then the liver signs will develop more quickly. A careful abdominal examination will often reveal a tenderness that is localized in the epigastrium or the right upper quadrant and often there is a spasm of the muscles of the abdomen with tenderness above the umbilicus. After twenty-four hours of illness there is usually a leucocytosis ranging from 10,000 to 24,000. The cause of the leucocytosis and fever in these cases is not clearly understood, but it has been suggested that the necrotic heart muscle acts as a foreign protein causing the fever and leucocytosis. When available, the findings in electrocardiogram are often so characteristic as to give fairly conclusive evidences of the previous occurrence of an attack of thrombosis, after the clinical signs have disappeared.

The clinical course of cases of coronary thrombosis after infarction has taken place is a very stormy one. Death is almost instantaneous in many of these cases. No doubt this is the explanation of many of the sudden deaths attributed to "heart failure", "acute indigestion" or "cerebral hemorrhage". A second group is recognized in which the first shock of the obstruction is survived and the patient lives a few hours or a few weeks. The pain, dyspnoea and other signs may persist and the early signs of a decompensation may develop. All the signs and symptoms may improve and then the patient die suddenly without the slightest warning. A very sudden death is characteristic of coronary thrombosis. The heart wall is often found to be ruptured in these cases, some as early as eighteen hours from the beginning of the attack, while others will go weeks before the rupture takes place. Dock, Herrick, Osler and others have recognized the fact that not all of these cases die suddenly; some of them live for months and years, and it is for this reason that the recognition of the disease is important. When one of these cases lives six or seven days recovery is likely to take place. Often death is sudden at the end of four or five days, when necrosis has taken place in the infarcted area. Recovery may be so incomplete that progressive heart failure develops, from which the patient dies. In others recovery is such that they may lead restricted lives for several years. Healing may be complete and the patient may be able to carry on as before anything happened. This is thought to take place in cases where small branches of the artery are involved. It is interesting to note that in cases that have previously suffered from anginal attacks, subsequently to an attack of coronary thrombosis, may remain free of anginal attacks. About 50 to 60 per cent of coronary thrombosis attacks are fatal.

Coronary thrombosis may initiate angina pectoris, complicate its course, or prove the fatal termination. From clinical and pathological evidence there is no doubt but that many cases have been diagnosed angina pectoris when it was coronary thrombosis. In fact, some men have split angina pectoris into two parts : (1) the group where coronary occlusion is a gradual process from atheroma or syphilis and leads to scattered myocardial fibrosis, with a clinical history of anginal pain on exertion, becoming more frequent and more easily induced with time and (2) the group where at the onset or during the course, acute infarction occurs, usually from coronary thrombosis, with a history of one or more of the outstanding attacks described.

Diagnosis: The diagnosis must be made from other cardiovascular lesions, acute pulmonary conditions and acute upper abdominal conditions. Coronary thrombosis must be differentiated from the more common heart failure with pain. The pain of occlusion is unrelated to effort, is not relieved by rest, is much more lasting, does not yield to vasodilators and is often associated with symptoms of shock or evidences of rapidly progressing heart failure.

TABLE OF DIFFERENTIATION FROM ANGINA PECTORIS

Anginal Pectoris—Onset, during exertion; site of pain, sternum, often mid-section; attitude, immobile; duration, minutes; shock, absent; dyspnoea, absent; vomiting, rare; pulse, unchanged; temperature, no fever; blood pressure, normal or rise; heart sounds, normal; congestive failure, absent; blood count, normal.

Coronary Thrombosis—Onset, often during rest or sleep; site of pain, sternum, often lower third; attitude, restless, even walk around; duration, hours or days; shock, present; dyspnoea, often present; vomiting, common; pulse, small, often rapid; temperature, fever follows; blood pressure, fall; heart sounds, distant sometimes, gallop rhythm or pericardial friction; congestive failure, commonly follows; blood count, leucocytosis.

Treatment: The outcome of the individual patient depends on the amount of damage caused by the infarct in the heart and in the conduction system of the particular patient. Absolute mental and physical rest is the most essential factor in treatment. The patient must be spared all exertion possible. The fluid intake is usually restricted. If the heart is slow and regular, I see no place for digitalis, however, if the heart is fast, irregular or fibrillating, then digitalis should be given. The nitrites will not relieve these patients . Large doses of morphine are indicated and even this will fail to control the pain in some instances. If there is much weakness and shock in these cases, then caffiene and camphor should be pushed. The period of rest in the cases that survive should be expressed in weeks or months instead of days. The patients should be kept warm with blankets and hot water bottles. When the pain is relieved, sedatives should take the place of morphine to prevent anxiety and restlessness as much as possible. Food should be given, liquid or semi-solid, in small amounts and often. Enemas should be used to keep the bowels open. In case heart failure sets in then the usual treatment for this should be instituted.

Musser calls attention to the beneficial effects of theobromine preparations as a vasodilator of the coronary vessels. The preparations I have used are theominal, aminophylin and diuretin. Theominal seems to be most beneficial, it being a combination of theobromine and luminal.

DISCUSSION

DR. R. B. WOOD (Knoxville): It seems rather strange to us at the present time, hearing so many papers on coronary thrombosis, that it should be less than half a century ago that the condition was first described, and also strange that it should lie dormant for practically a quarter of a century before being revived again. Even as late as Blumer's work, he says that the diagnosis of coronary thrombosis is after all probably a mass of probabilities.

Herrick in 1912 gives us a group of the so-called non-fatal mild cases of coronary disease, which to us is chiefly of interest owing to the fact that it is only in these that we have a chance to practice our therapeutics.

In the diagnosis of coronary disease we are frequently rather backward, owing to the fact that we labor between the fear of making a mistake on our own part to the detriment of the patient, and fear of driving that patient into a state of an anxiety neurosis.

We should, however, I think, in fairness to the patient err on the side of safety, and when in doubt label it as coronary disease, at least in our own mind until we have proven by all available means, including the electrocardiographic tracing, as to whether we are right or not.

It is the changes that we see in the S T and the R T segments, the changes in the T wave that are most significant, but perhaps more valuable than all is the change that we get in the tracings from time to time. So far as clinical electrocardiographic evidence itself is concerned, it depends on two underlying factors, namely, the suddenness of onset, and second, the nature of the damage that has been done.

So far as therapeutics is concerned I can add nothing to that which Dr. Bryan has outlined. It seems that those mild cases that are recognized quite early, where strict and prompt treatment is initiated, are the only ones in which we can expect very long prolongation of life.

DR. L. T. STEM (Chattanooga): I would like the Doctor to state the approximate time he feels even the mildest case should be kept quiet and have rest.

DR. O. N. BRYAN (Closing): I think the longer these patients rest the better. I remember one prominent physician in Nashville that we kept in bed about eight weeks straight. That is the longest time that I ever kept one in bed. It was awfully hard to do. It is hard when a man feels perfectly all right to keep him in bed that long. The longest case I have ever seen was three years last Christmas.

As to sudden death, as I outlined in my paper, the death occurs from six to seven days afterwards. I remember two years ago Dr. Witt and I had a very prominent man who was brought down there with this condition, and he lived to about the sixth day. The nurse let him sit up to eat his breakfast and he went out very suddenly.

A ROMANCE OF PATERNALISM*

By WALTER F. DONALDSON, M.D., Pittsburgh, Pa.
Secretary of the Medical Society of the State of Pennsylvania

TOM Jones and Paul Smith, each aged 21 years, graduated together from a Pennsylvania college in June, 1918, and immediately enlisted for service in the World War. They remained in separate training camps in the United States, and were honorably discharged in improved health in December of the same year.

Jones entered a broker's office, and ten years later, at the age of 32, was prosperous and in good health, except for an epididymitis, which developed in 1930 after an ardent but ill-fated affair with a woman of easy virtue. Smith entered medical college in 1919, and after the necessary five years of preparation and two additional but voluntary years of hospital training, began practice in his home town, and in 1930 was chosen to be the genito-urinary surgeon on the staff of the local general hospital.

Broker Jones consulted Dr. Smith, his former comrade in arms, regarding his infection, and Dr. Smith advised an operation, to be performed at the home town hospital, and plans were made accordingly. But an enthusiastic former comrade, with a political slant toward special benefits, hearing that Jones was hospital-bound, reminded him that a vote-seeking group of congressmen had recently successfully piloted through Federal legislation providing free hospitalization and treatment for all former soldiers, regardless of their ability to pay or the relation of their disability to their war service. So, prosperous Jones, with his impairment received in an *affaire d'amour* eleven years after his discharge from the army, was transported, at government expense, to and from a distant government hospital, while Dr. Smith chalked up another fee lost, and the local hospital another empty hospital bed, to the absolutely unfair paternalistic competition of Uncle Sam.

Who provided the cash to pay for Broker Jones' free transportation, free hospitalization, and free treatment? His former comrade, Dr. Smith, his neighbors who maintain the hometown hospital, and others who pay a Federal income tax. Approximately 15,000 of the approximately 30,000 World War soldiers at present in recently built, but frequently unnecessary government hospitals, are being treated for ailments in no way related to their army experience, and without consideration of their financial ability to pay the charges of hospitals and physicians adjacent to their places of residence.

Was Jones, during his convalescence at the hospital much in contact with other patients—the much honored and worthy beneficiaries of a grateful government? No! Those today in government hospitals surviving wounds and sickness or disease actually related to war or camp service number but 15,000, and they are often segregated from the other 15,000 at present in government hospitals, who, like Jones, are receiving free treatment for ailments in no way related to their army experience and without consideration of their ability to pay for treatment nearer home. So, in company with other country club members, who are convalescent from tonsil or appendix operations, or from an attack of gout or "nineteenth hole" neuritis, Jones whiles away a prolonged period of convalescence criticizing the wise president of the United States, who successfully obstructed the passage of legislation designed to extend the same economically unsound free hospital benefits to all the members of the families of former soldiers. Of course, Jones and the others wondered when an ungrateful government would include free clothing and free shoes, or begin to transport its indolent heroes to free hospitals built in Hawaii or Porto Rico, rather than to those only 2,000 miles away from home.

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After a stay in the hospital three weeks longer than necessary, or possible had Jones been paying for it (it is difficult to find enough patients to fill the beds in many of the government hospitals), Jones returned to his home town, where for a long period he "groused" about the quality of the free service he received from a bureau-controlled government hospital.

In the meantime, Dr. Smith having aroused the interest of his fellow Federal income-taxpayers on the board of directors of the local hospital, as well as in the county medical society, is, or should be, endeavoring to convince his congressmen and the senators from his state that the Federal government must respect certain fundamental principles of "states' rights," and abandon its policy of providing free medical and hospital care, and financial relief for war veterans, except for impairments which can be reasonably related to war service, or the veteran who is unable to pay for the treatment. Dr. Smith contends that since physicians represent the first group of citizens whose economic welfare is seriously threatened by this form of paternalism, and since they compose one of the few remaining individualistic professions, it is the duty of physicians to become politically conscious and to take the lead in fighting for recognition of "states' rights" and for discontinuance of Federal interference.

Those of us who retain knowledge of the meaning and relation of such Victorian words or terms as "pork barrel," and "rivers and harbors," to congressional raids on the Federal treasury, will no doubt agree that the large sums of Federal money spent in a congressional district to "improve" the harbor facilities of an erstwhile lackadaisical creek or river, or to erect a post-office building extravagantly large and ornate for the actual service requirements, pale into insignificance politically when compared with the patronage possibilities following upon success in landing a $2,000,000 veterans' hospital for the "old home district." The initial investment may appear a paltry sum, but the annual budget and the political strength and patronage garnered in the influence of several hundred hospital employees in a congressional district may assure the fortunate congressman many terms in office. Therefore, the Veterans' Hospital Racket is here to stay.

Surely, those who pay taxes to the United States Government will not supinely continue to approve free medical, surgical, and hospital treatment of the disabilities of 4,500,000 veterans which originate as ordinary incidents of every-day life twelve or more years after the World War ended. Congressmen and senators who support such legislation must be rebuked at the polls, and the great majority of the veterans retaining their patriotic principles must repudiate the noisy minority who continue their raids on the public treasury.

An editorial writer in a recent issue of the *Outlook* ascribes the victory in the passage of the Johnson Bill to the "grasping element in the American Legion," and to "cheap politicians in Congress who will oblige any vigorous minority in order to be reelected." The same writer describes the bill as: "A grab, a gouge—nothing more. Under the guise of providing for some meritorious borderline cases of disability, it opens the door for general pensions for everybody (4,500,000) who wore khaki during the World War.

"When the country adopted the War Insurance Act in 1917, it was assured that the scandals of the G. A. R. pension grab would never be repeated. When it granted the bonus, it was reassured again. The Legion itself went on record as opposed to general pensions. Yet, where are we now? Now we have a brand new method of granting money based on present-day accidents in civil life, and having nothing to do with the war."

With full knowledge of such facts, Calvin Coolidge said: "All countries on earth in all history, all put together, have not done as much for those who have fought in their behalf as our country alone has done since 1880."

It becomes hard for physicians to remember the earlier resolve to support every possible form of assistance to veterans, the victims of disease and injury resulting from war service, when we look on with righteous indignation while prosperous veterans are treated, without cost, at government hospitals, for civil life impairments such as enlarged tonsils, while vacant beds remain plentiful in home-town hospitals that are supported by the same citizens whose tax money also pays for the erection and maintenance of the already too numerous veterans' hospitals.

Apparently nothing can daunt the determination of the American Legion and other veterans' organizations in their relentless march toward bigger and better government aid for ex-soldiers. Following the recently enacted Federal legislation making available the cash bonus will come the already announced legislative program for immediate cash payment on all bonus certificates at their matured value. Who shall take the lead in developing resistance to this veterans' pressure, in shaming veterans out of such demands? If our younger men are taught that service to their country means that our Government thereafter must reward them irrespective of their needs, then we are indeed undermining the very foundations of good citizenship. Veterans must develop and manifest a peacetime patriotism before the burden of pensions becomes intolerable.

Our Civil War pensions, instituted in 1879, amounted in the year 1919 to $125,000,000, or four times as much as they were fifty years earlier. If, as recently proposed by National Commander O'Neil, of the Legion, the next Congress grants equality of pensions for veterans of all wars, then in a short time the Federal government will be paying out annually to its more than 4,000,000 veterans more money than we spent while actually engaged in the World War. A Billion Dollars A Year!

Dr. Smith, while agreeing that our Federal government should show every possible reasonable consideration to our war veterans, also emphasizes the fact that a larger proportion of physicians entered government service in 1917 and 1918 than from any other professional group. When the proposed 47 or more veterans' hospitals, each sustaining more salaried employees than patients, have been completed and occupied, then will "state medicine" have been thoroughly established throughout the United States, never to be displaced because of the political patronage involved. And when veterans or their relatives no longer abound, then will the free hospital service be extended to other citizens; and by 1960 the private medical practitioner and the neighborhood hospital may largely have passed out of the picture.

Think it over, readers or hearers of this basically true story. Discuss it with your tax-paying neighbors, and with your congressmen. Any governmental policy which decreases the present-day attractiveness of medical practice to the intellectual type of mind, and causes men of ability to forsake it, is certainly against sound public policy. None can successfully deny, it is believed, that the Federal government, by the policy herein complained of, is in unfair competition with private physicians and the supporters of local hospitals, who in turn are taxed to finance this paternalistic, bureaucratic form of medical and surgical hospital and dispensary practice.

THE TREATMENT OF FIBROID TUMORS OF THE UTERUS WITH AN ANALYSIS OF 318 CASES*

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FIBROID tumors of the uterus are the most frequent tumors occurring in the human body. Accurate figures as to their frequency are obviously difficult to obtain. Bland states that 20 per cent of all women who reach the age of 35, and 40 per cent of those who reach 50, have them. Graves states that 40 per cent of all women have fibroid tumors, and that nearly all single women of middle age have them. Boyd estimates their incidence in white women as 1 in 5, and in negro women as 1 in 2. Fortunately many of them do no harm, and the mere presence of such a tumor does not in itself call for treatment. The fear of malignant degeneration has caused many of them to receive active treatment unnecessarily.

A woman with a small symptomless tumor should have explained to her the nature of the growth, and its essentially benign character, and should be advised to submit to yearly examination so that any increase in size could be noted. It is estimated by Lockyer that approximately 55 per cent of these tumors never cause symptoms.

The symptoms which usually demand treatment are rapid growth, hemorrhage, pain and evidence of degeneration or necrosis.

Very large tumors are prone to undergo degeneration and develop complications and require treatment even in the absence of symptoms. Pressure of the growth on some abdominal viscus, or the subjective symptom of weight and pressure experienced by the patient, frequently call for treatment. Careful consideration of each case, first as to the need for treatment, and second as to the best method for that particular case, is always necessary. No single method is always applicable. Palliative treatment is sometimes necessary for hemorrhage or associated pelvic inflammation. Rest in bed and prolonged hot douches are of value for both of these conditions, and ergot is helpful in the bleeding cases. Occasionally blood transfusion may be necessary as an emergency measure.

We have at our disposal two radical methods of treatment, radiation either in the form of radium or deep x-ray therapy, and surgery. Radium and x-ray produce results by their destructive action on the ovarian follicles. By the induction of an artificial menopause they control hemorrhage, and produce a decrease in the size of the growth. They may have some direct action on the tumor, but a successful result is usually not obtained unless a permanent amenorrhea is produced. In women under 35 years of age, the preservation of the possibility of conception is an important consideration, and even if pregnancy does not occur, continuation of the menstrual function allows the woman to escape the nervous phenomena of a premature menopause.

For this reason radiation should not be used in women under 35 years if it is possible to remove the tumor and have enough endometrium left to carry on menstruation.

Radium should not be used in case there is associated pelvic infection, even if this is old and quiescent, as there is danger of lighting up such an infection with disastrous results.

Deep x-ray therapy does not carry this danger to such a degree. Other generally accepted contraindications to radium are, tumors larger than a three months pregnancy, submucous tumors, or tumors undergoing degeneration.

Cases which show an anaemia, out of proportion to the amount of hemorrhage the patient has had, should not be treated by radium, as this usually indicates a degenerating tumor. If radium is to be used the uterus should be curetted, and the tissue removed, examined for carcinoma of the uterine body, since it is generally believed that the incidence of cancer of the body of the uterus is increased in women with fibroids.

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16, 1931.

The finding of cancer, of course, calls for hysterectomy since radium does not offer as good a chance for cure as does hysterectomy.

This precaution applies also to deep x-ray therapy, and for this reason, and the further fact that burns of the skin, intestine, or bladder may be caused by x-ray, radium is a more popular method of radiation.

Modern x-ray equipment, together with proper screening and a proper technique, can overcome the danger of burns, but if the patient is to be curetted to exclude malignancy, it seems best to combine this with the simultaneous application of radium.

Small tumors in women approaching the menopause, where pelvic infection can be ruled out, where pain is not present, and where hemorrhage is the outstanding symptom, offer the ideal class of cases for treatment by radium.

In view of these limitations, it is evident that most fibroids requiring treatment, are best treated by surgery.

Submucous tumors presenting in the vagina are usually easily removed, as they are generally attached by comparatively small pedicles.

Vaginal hysterectomy for tumors of the body of the uterus has a limited field since only small tumors can be dealt with by this route, and cases complicated by infection and adhesions are more difficult than if abdominal section is done. Supra-vaginal hysterectomy removes the tumor and any associated pelvic pathology. It leaves behind the cervix. The woman, therefore, has the average liability to cancer of the cervix. For this reason a good deal has been said about the advisability of doing panhysterectomy on all cases. But this operation unquestionably carries a considerable higher mortality than supra-vaginal hysterectomy, and the increased mortality would more than offset the deaths due to cancer occurring in the remaining cervix.

If the cervix is badly lacerated and eroded, or suspicious of malignancy, the additional risk may be justified. But if panhysterectomy is adopted as a routine procedure as a prophylactic method against cancer, it will cost more lives than it will save.

There is considerable difference of opinion as to whether one or both ovaries should be left, assuming that one or both are normal. The ovary has an internal secretion which is of value in controlling the nervous symptoms incident to the artificial menopause, and for this reason it would seem that if normal ovarian tissue is present it should be left, even with the knowledge that it is difficult not to interfere to some extent with its circulation, and that occasionally symptoms may develop because it was left. If the tubes are normal, leaving them in helps to preserve the ovarian circulation.

Myomectomy is growing in popularity as the preferred method of treatment in small isolated tumors, in young women. It removes the tumor or tumors, but leaves the possibility of pregnancy, and the menstrual function. It also leaves the possibility of the development of other tumors, as small fibroids not found at the time of operation may later develop and cause symptoms. It is a more difficult operation than hysterectomy from the technical standpoint, and is more apt to be followed by adhesions. However, in spite of these drawbacks, it has a very definite field in young women, where it is important to preserve the possibility of pregnancy. There is a great temptation in operating on these cases to do multiple operations. Since the patient has decided on the great adventure, she wants everything done that is necessary or may become necessary. The removal of the appendix, or gall bladder, or plastic operations are frequently desirable, but serious thought should be taken as to whether they would not increase the mortality or morbidity. In this day of improved anesthesia and more comfortable convalescence, nothing in the nature of multiple operations should be undertaken without due consideration. The results of surgery or radiation in properly selected cases of fibroid tumors, is good. The patient is relieved of her disability, her hemorrhage is controlled, and her pain is relieved.

The mortality is largely dependent on the condition of the patient, the size of the tumor, and the number and seriousness of the complications.

Statistics from private clinics dealing with intelligent patients who seek advice early, show a low mortality.

Kelley and Cullen in a large series of cases had a mortality of 5.5 per cent. General Charity hospitals taking all patients needing treatment, necessarily receive many late and neglected cases. Statistics from such institutions, however, probably give a better average idea as to the true mortality of this condition, than do the results in private clinics, with a clientele of highly intelligent patients.

In an effort to obtain an idea of results in such institutions, I have reviewed the histories of 318 cases treated in the Nashville General Hospital during the past ten years. These cases were treated by the various men on the gynecological service during this time.

Of the 318 cases, 75 occurred in white women, 243 in negro women. During this time the number of white women admitted exceeded the number of negro women. The average age was 38 years. Of the total number 108 had not borne children.

The chief complaint, in the order of frequency, was pain in the abdomen, 129 cases. The presence of a tumor, 109 cases. Abnormal bleeding, 71 cases.

An uncomplicated fibroid does not cause pain, and this finding is indicative of the number of cases with complications. The fact that 109 patients come in because of the tumor is perhaps explained by the large size of many of the tumors.

Abnormal bleeding, which is said by many textbooks to be the most characteristic symptom, was third in order of frequency. Some presented more than one complaint, but these were the most frequent.

The number of patients subjected to radical treatment, either operation or radiation, was 256. Of these 20 had a complete hysterectomy, with 3 deaths; a mortality of 15 per cent. One died with intestinal obstruction, one from shock, and one from peritonitis. Other surgery done on these patients included 9 appendectomies, 1 reduction of an intussusception, and 1 perinoeorrhaphy. 210 patients had supra-vaginal hysterectomy with 15 deaths, a mortality of 7.1 per cent. This includes all deaths, although there were some cases where other pathology present may have been the real reason for the death. For instance, a woman who had a hysterectomy, also had syphilis, developed a severe case of Vincent's Angina, later Decubitus ulcers, and died six weeks after operation with exhaustion and malnutrition.

The causes of death were as follows: Embolus, 3; pneumonia, 2; hemorrhage and shock, 3; cardiac dilatation, 1; blood stream infection, 1; peritonitis and obstruction, 5.

Of the cases dying of peritonitis, one had at the time of operation a ruptured appendix, and another an ovarian cyst with a twisted pedicle. (Of the 209 supravaginal hysterectomies 48 had both tubes and ovaries removed; 34 both tubes and one ovary; 16 both tubes; 36 one tube and one ovary; 34 had the uterus alone removed, and 91 had appendectomy.)

Of the 244 cases in which the abdomen was opened, other pathology was present as follows: Inflammatory lesions of the appendages in 110 cases, or 45 per cent; ovarian cysts in 35 cases, or 14.3 per cent. There was one case of ectopic pregnancy, one of intussusception, seven of acute appendicitis, and 34 of chronic appendicitis.

Myomectomy was done in 15 cases, with one death, a mortality of 6.6 per cent. This patient died of peritonitis, secondary to the removal of a subserous tumor with a twisted pedicle which had become gangrenous. A number of these patients were subjected to additional surgery, such as appendectomy, removal of appendages, suspension of uterus, etc.

Radium was used on 11 cases with one death, a mortality of 9.1 per cent. This patient was extremely anaemic, and had two blood transfusions, followed by the radium. Infection occurred in the tumor and she succumbed to shock and sepsis. This, of course, does not represent the true mortality of cases treated by radium. One death in such a small number of cases gives an abnormally high mortality.

One patient was admitted in a very septic condition from pelvic abscesses secondary to a degenerating fibroid. She had two vaginal incisions and one abdominal incision to evacuate collections of pus, and finally succumbed to sepsis without any more radical procedure.

There were 61 women with tumors admitted to the hospital who were not operated on for various reasons. In this group there were two deaths, a mortality of 3.2 per cent. One of these women died from acute endocarditis, pneumonia and cachexia caused by a cystic infected fibroid, which, at autopsy, weighed 17 pounds. The other died from peritonitis secondary to the rupture of a fibroid abscess. This mortality of 3.2 per cent in the cases not operated on is an index of the type of patient received in the hospital. The total mortality on all fibroids admitted to the hospital was 6.9 per cent whether operated or not.

In the cases operated on, one or both ovaries was left in 200 instances. No effort was made to follow up these patients, but the histories of those who had re-entered the hospital were examined to see if any case of cancer of the cervix, or ovarian pathology, had returned for treatment.

There were 49 re-entries. Five of these were for conditions associated with the operation. One patient had a persistent leucorrhea requiring cauterization of the cervix, two had prolapse of the vaginal wall, one had cystitis, and one who had had a supra-vaginal hysterectomy came back later with a cervical fibroid.

The other re-entries were not for conditions connected with the operation. However, some of these patients may have gone elsewhere for relief of these conditions. Unfortunately, these tumors were not examined for the occurrence of cancer of the body of the uterus. Gardner advises the opening of the uterine cavity before the operation is completed, so that if carcinoma is present panhysterectomy can be done.

There were three cases of carcinoma of the cervix in the series. Goitre and heart disease are said to occur more frequently in women with fibroids. However, in this group there were only three patients with goitre, and six with demonstrable heart lesions. This is probably no higher than the average incidence of these two conditions.

An examination was made of the records of all the patients who died, to determine, if possible, the influence of other operative procedures on the mortality. One patient who had an extopic pregnancy with rupture, had the tube and ovary removed, and a hysterectomy done because of a fibroid. She died from obstruction. Another had a perinoeorrhaphy, hysterectomy, and appendectomy, and died from pneumonia. Another patient had an ovarian cyst said to have contained two gallons of fluid. This was removed and a hysterectomy done with a fatal result from obstruction.

One patient had an ovarian cyst the size of a grapefruit, and a pyosalpinx. These were removed and a hysterectomy and appendectomy done, with death from peritonitis.

Another patient had a history of acute pain in the abdomen, nausea and vomiting, leucocytosis, and right sided tenderness. She had a large tumor. At operation the tumor was removed, when it was discovered that she had a ruptured, gangrenous appendix, which was removed, followed by death from peritonitis.

In these five cases, it is probable that less extensive surgery might have been wiser, and might have resulted in a lower mortality.

The frequency of these tumors and the serious results which may be brought about by their presence demand careful consideration of each case. Many among the laity have a fixed idea that they do no harm. They are content to endure the discomfort associated with a tumor, in the belief that the menopause will bring relief. This no doubt accounts for many late and complicated cases.

A medical mortality of 3.2 per cent in this series, shows that this view is wrong.

By individual study of each case as to the need for treatment, and as to the best form of treatment for that particular case, the mortality can be lowered, and better end results obtained.

DISCUSSION

DR. H. M. TIGERT (Nashville): Any procedure carrying a mortality of about five per cent must be regarded as serious. Fibroid tumors of the uterus, as pointed out by the essayist, are extremely common. Fortunately, the vast majority of them give rise to no symptoms.

When fibroid tumors do give rise to symptoms, in most instances, it is fairly easy to determine whether or not the case is surgical or whether it should be treated with deep ray therapy or radium. It is in the borderline case in which the very finest judgment is necessary to determine which is the better procedure.

As the essayist pointed out, women who are close to the menopause and where the size of the tumor is not great, are ideal for radium. In younger women, of course, we hesitate to use radium for the reason that it has a very definite effect on the ovary, inducing artificial menopause and oftentimes induces serious nervous symptoms.

Personally, while I realize that there is some difference of opinion with reference to leaving the ovary, I feel that we are justified in every instance in leaving normal ovarian tissue where it is possible to do so. I believe one should study cases with extreme care before subjecting them to radium in order to eliminate these with infections associated with them.

Large tumors, of course, all require surgery.

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H. H. SHOULDERS, M.D., Editor and Secretary

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EDITORIAL

The Depression

One of the effects of the economic depression through which we are passing may be that people are made to think. When people, who are capable of thinking, really get down to thinking and base their actions on thoughts rather than on impulse the results, we believe, will be wholesome.

Just a few years ago the government through its various departments of justice, health, agriculture, etc., dealt with problems which required the exercising of governmental power. Individual problems whether financial, health, etc., were left to the individual.

In recent years these various departments of government have expanded. They have created bureaus almost beyond number. Their personnel has multiplied many times and their expenditures have multiplied more times. With this growth has come a broadening out of duties. Problems which are purely personal are being taken over by government—economic problems, health problems, etc., which in no way require the exercise of governmental power are being dealt with through a government agency.

The extent to which this has been going on is revealed in a story in a recent issue of the Saturday Evening Post by Merle Thorpe under the heading, "Our Vanishing Economic Freedom."

He shows that one-fifth of the nation's annual income, or about $14,000,000,000.00, is being expended by the government. That there are now from two to five million employees of the government. That from twelve to twenty million persons are dependent on the government payroll. He quotes an authority who asserts that at the rate government is expanding one-half the population of the United States will be enlisted in the ranks of government by the year 1963.

He further shows that many of the government bureaus and agencies have "Divisions of Publicity" and that the total output of these divisions is 300,000 words a day. Much of this propaganda serves to emphasize in the mind of the public the public service the department bureaus, etc., are rendering.

An organization of government employees has been formed and is exerting tremendous political power now. It publishes a magazine. It soon is to have a convention. On the program of this convention appears such topics as the following: "Salary Increases", "Optional Retirement After Thirty Years' Service *With a Pension*", "Stated Promotional Intervals", etc.

The means for the support of all these governmental activities must be drawn from the earnings of private enterprises, some of which must compete with governmental agencies.

All these observations naturally lead to this question: Is it not possible that we may be spending these vast sums of money in the support of government agencies created for the laudable purpose of promoting the thing we call progress: The saving of lives and wealth, so to speak, which sooner or later are to be sacrificed in an effort to recover the thing we call freedom?

On another page of this issue we are taking the liberty of reproducing an article by Dr. Walter F. Donaldson, Secretary of the Medical Society of the State of Pennsylvania, under the heading, "A Romance of Paternalism."

It is readable. It portrays a situation with which organized medicine of America is endeavoring to deal.

NEWS NOTES AND COMMENTS

The East Tennessee Medical Society was held at Greeneville on October 1 and 2nd. A good program was enjoyed by a large attendance.

Dr. T. L. Phillips, of Oneida, is remodeling and enlarging his office building on Main Street.

Dr. Austin F. Barr, formerly of Pulaski, has moved to Cherry Valley, Arkansas.

A Remedy for Static Minds

The editorial page of the Southern Medical Journal quotes the following paragraph from Dr. Henry A. Christian, Harvard University Medical School:

"Things in nature rarely are static; they increase or they decrease; they grow or they decay; they progress or they retrogress. Man's education in many respects resembles things of nature; rarely is it static; when knowledge does not increase, almost always it decreases. Physicians should remember this and make every effort to keep out of the static state and on the side of increase, of growth, of progress.

"Physicians can be divided into two great groups, those that are learning and those that are forgetting; those that each year know more, and those that each year know less. There seems no third group, those that are stationary.

"A few physicians increase in knowledge from within and grow from their own doing. These are the innate investigators. The rank and file require outside help to grow and to progress. Books, *meetings, contacts, discussions*, teachers are our armamentarium for progress. Like the 'spring tonic' of past days, all of us need some of this medicine, at least annually, better if it comes more frequently. A large majority of physicians know their need and seek treatment."

The approaching meeting of the Southern Medical Association at New Orleans is prescribed as a remedy for static minds.

It has been seven years since New Orleans has entertained the Southern Medical Association and we are assured that all convention facilities, hotels, auditoriums, golf links and dining rooms have been greatly improved.

In addition to the meeting of the Southern Medical Association, the American Society of Tropical Medicine, the National Malaria Committee and the Southern Association of Anesthetists will hold their meetings at the same time, November 18-20, 1931.

Health Racketeers

Medical quackery, which for several years gradually lost ground because of the growing tendency of newspapers to reject quack advertising, seems to have found a new and potent ally in the radio.

Much advertising which no self-respecting newspaper would print is freely broadcast over the air, evidently with some success in attracting suckers, because it is being continued in undiminished volume.

Those who prey upon the public by fraudulently cashing in on the universal desire for health are characterized by Dr. E. P. Lyon, dean of the medical school of the University of Minnesota, as "health racketeers". He says of this type of faker:

"His health patter is psuedo-science. His eye is on your check book. In these days especially he prostitutes the radio to his uses. Quacks and quackery, fakers and fakery of all kinds appeal to a bewildered public, between jazz and the nasal tenor, with blatant advertisements that no reputable journal will print. Oh, Health, what crimes are committed in thy name!"

Even some of what appears to be legitimate advertising is very deceptive. The doctor says further: "Brushing the teeth is a nice habit; but no one has proved that it saves teeth, and all the flamboyant advertising about tooth pastes is rottenest tommyrot."

MEDICAL SOCIETIES

Bedford County—On September 17th, Dr. S. S. Moody was the speaker. A good attendance was present and all joined in discussing the subject.

Benton, Carroll, Henry, Weakley County Medical Society—Seventeen members were present at the meeting on September 8th. The study of the heart was continued by papers by Dr. W. T. Fitts, of Jackson, on "Functional Heart Disease", and one by Dr. W. C. Chaney, of Memphis, on "Diseases of the Heart Associated with Other Conditions."

Chester, Decatur and Henderson—The Tri-County Medical Society met in Lexington September 10th, and had a most interesting program. A large number of physicians were present.

Coffee County—The September meeting of the Coffee County Medical Society was held at the office of Dr. R. L. Dossett. The entire membership was present.

A paper on "The Cause and Effect of Rheumatism", presented by Dr. E. P. Vaughan, was discussed at the meeting. The speaker at the next meeting which will be held with Dr. J. H. Farrar, at Manchester, will be Dr. U. B. Bowden, who will present a paper on "Preventive Medicine."

Davidson County—September 22nd: "Indications and Contra-indications for Digitalis", by Dr. Tinsley Harrison. Discussion opened by Dr. W. R. Cate.

September 29th: "Excessive Frequency of Urination", by Dr. E. H. Barksdale. Discussion opened by Dr. H. L. Douglas.

October 6th: "Intraperitoneal Hemorrhage of Pelvic Origin", by Dr. C. S. McMurray. Discussion opened by Dr. Harlan Tucker.

October 13th: "Food Allergy and Hay-fever", by Dr. Herman Spitz. Discussion opened by Dr. J. B. Hibbetts, Jr.

October 20th: "Consideration of Some Fractures With Special Reference to the Femur", by Dr. J. F. Gallagher. Discussion opened by Dr. Duncan Eve, Jr.

Dyer, Lake and Crockett Counties—A large number of physicians from Lake, Crockett and Dyer counties attended the September meeting of the Tri-County Medical Society. Papers were presented by Dr. W. S. Griffin, of Tiptonville, on "Diabetes." Dr. C. L. Denton, of Dyersburg, on "Blood Pressure" and Dr. E. H. Baird, of Dyersburg, on "Liver Abscess".

Gibson County—Dr. Richard Barr, of Nashville; Dr. E. C. Mitchell and Dr. J. C. Ayres, of Memphis, and Dr. B. T. Bennett, of Trenton, read papers before the September meeting of the Gibson County Medical Society. After the business meeting at the courthouse the thirty members and their guests from Memphis and Nashville went to the Gibson County Fair Grounds for the annual barbecue. Sixty or more attended.

Hamilton County—October programs are as follows:

October 1st: Paper by Dr. C. R. Thomas. "Operative Procedure for Squint", by Dr. Willard Steele.

October 8th: "Diseases of the Para-Nasal Sinuses", by Dr. F. E. Hasty, Nashville. "Chest Conditions and Para-Nasal Sinus Disease", by Dr. Hollis Johnson, Nashville. "Para-Nasal Sinus Disease in Pediatrics", by Dr. Horton Casparis, Nashville.

October 15th: "Tuberculosis of Joints", by Dr. R. C. Robertson. "Abdominal Drainage Basins", by Dr. Wm. J. Sheridan.

October 22nd: "Relationship Between Physiology and Surgery", by Dr. H. L. Fancher. "Spinal Anesthesia", by Dr. E. A. Gilbert.

Hardin, Lawrence, Lewis, Perry and Wayne Counties—The September meeting was held at Waynesboro on the 29th. The program was as follows:

"Cerebro-Spinal Meningitis", by Dr. W. E. Boyce, Flatwoods. Discussion opened by Dr. F. H. Norman, Waynesboro.

"Diagnosis and Treatment of Incipient

Tuberculosis", by Dr. James A. Price, Memphis. Discussion opened by Dr. O. H. Williams, Savannah.

"Present Status of the Treatment of Puerperal Sepsis", by Dr. Percy W. Toombs, Memphis. Discussion opened by Dr. Otis W. Whitlow, Savannah.

"The Mouth and Its Relation to Disease", by Dr. J. T. Keeton, Clifton. Discussion opened by Dr. J. W. Danley, Lawrenceburg.

Knox County—The following papers have been read before the Knox County Medical Society:

September 8th: "Sprue", by Dr. S. Joe Platt. Discussion opened by Dr. W. S. Austin.

September 15th: "Refraction and Examination of the Eyes", by Dr. R. H. Newman. Discussion opened by Dr. Robert Leach.

September 22nd: Dr. A. B. Stone was the essayist and Dr. Kyle Copenhaver opened the discussion.

September 29th: "Glaucoma", by Dr. J. R. Hamilton. Discussion opened by Dr. W. W. Potter.

McMinn, Roane, Loudon, Monroe County Medical Society—Doctors from four counties gathered at the Eblen building, Lenoir City, for their monthly session. There were a large group from each of the counties of McMinn, Roane, Loudon and Monroe present. An interesting program was carried out.

The special invited speaker of the occasion was Dr. R. B. Wood, of Knoxville, whose subject was "Myocardial Failure". Lunch was enjoyed at the Hotel General Lenoir.

Putnam, White, Overton, Cumberland and Jackson Counties—The Five-County Medical Society met at the Imperial Hotel in Monterey, September 24th.

The following papers were read: "Diagnosis of a Pathological Gall Bladder", by Dr. E. B. Clark, Sparta. Discussed by Dr. T. M. Crane, Monterey. "The Infected Cervix", by Dr. H. H. Taylor, Cookeville. Discussed by Dr. W. M. Johnson, Sparta.

Query Section: "How do you treat Bichloride Poisoning?" Dr. R. C. Gaw, Gainesboro.

"What are the predisposing causes; also direct causes of the middle ear infection?" Dr. C. E. Tubb, Sparta.

"What is meant by the term, intermittent claudication?" Dr. Brown.

"Have you ever had a patient infected from a dead baby?" Dr. S. E. Gaines.

Seventeen members were present and one new member elected.

Robertson County—Dr. W. B. Dye entertained the Robertson County Medical Society and a number of his friends with a squirrel stew on the campus of the high school on September 5th. Bountiful quantities of the stew were served after which lectures were delivered by Drs. W. A. Bryan and Horton Casparis, of Nashville. Dr. Bryan had for his subject, "Pain", while that of Dr. Casparis was "Practical Infant Feeding." Both lectures were interesting and instructive and the discussion was quite liberal.

Visiting doctors present were Drs. W. A. Bryan, Horton Casparis, W. B. Anderson, M. B. Davis, E. E. Brown, H. S. Shoulders, J. M. Lee, C S. McMurray, T. F. Bridges, R. C. Derivaux, R. W. Billington, Hilliard Wood, R. N. Herbert, C. M. Hamilton, W. G. Kennon, and Eugene Regen, Nashville; Dr. J. R. Russell, Adairville, Ky., and Dr. J. M. Harris, Thomasville, Tenn. Members of the society present were Drs. Fentress, Garner, Reeves, Banks, Bradley, Freeman, Ayers, Gossett, Porter, Moore, Dye and Fyke.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By Hugh Barr, M.D.
Medical Arts Bldg., Nashville

Ethylene Versus All Other Anesthetics. Cline N. Chapman, M.D., Washington, D. C. Current Researches in Anesthesia and Analgesia, Sept.-Oct., 1931.

The author has used ethylene in every type of operation, and in combination with nitrous oxide, ether, local, spinal, avertin, and with the various barbital derivatives. Ethylene is contra-indicated only in the presence of an open cautery or spark. Ethylene can not entirely replace ether as ether is the only anesthetic that can produce complete relaxation without endangering the life of the patient. Therefore, the author adds ether to ethylene when complete relaxation is demanded.

Local anesthesia produces too much physical shock. Spinal anesthesia is more dangerous than ethylene and is limited to surgery below the diaphragm. Avertin is depressing to the respiration and in safe doses must be supplemented by inhalation anesthesia. Barbital preparations can only be used as basal anesthetics as there is danger when given in sufficient doses to produce surgical anesthesia and then relaxation is not obtained. In conclusion the author states that ethylene has a wide margin of safety and as it must be used to pull other anesthetics out of the ditch, why should it not be good enough to be used in the first place.

CLINICAL PATHOLOGY

By R. H. Monger, M.D.
Medical Building, Knoxville

Autopsy Observations on One Hundred and Sixteen Cases of Malignant Disease, in Eighty-Nine of Which Experimental Injections of Suprarenal Cortex Extract (Coffey-Humber) Were Given. American Jour. of Cancer, July, 1931, H. A. Ball.

Gross and microscopic finding are reported on the post mortem examinations of one hundred and sixteen patients with malignant disease, eighty-nine of these being subjected to experimental injections of Suprarenal Cortex Extract (Coffey-Humber). No essential change from that usually observed in the characteristics of malignant tissue in far advanced cases could be determined in the eighty-nine patients that received the Suprarenal Cortex Extract. The observations indicated the incidence of metastases to the suprarenals is higher than the recorded experience of pathologists in general would seem to indicate. Immediate causes of death which were definitely secondary to the malignant process were tabulated for this entire series of one hundred and sixteen cases, with the conclusion that mechanical obstruction to a duct or viscus is by far the most frequent contributory cause of death.

Occurrence of Unidentified Sporangia in Tonsil Crypts. A. S. Warthin. Archives of Path., July, 1931.

Over a period of thirty-five years the author examined about 50,000 tonsils and there were two cases in which the tonsillar crypts contained spherical bodies having hyaline walls and packed full of spores mostly in an unripe stage. These bodies varied from 30 to 60 microns in diameter. There was also present larger, irregular, partly collapsed or shrunken sporangia containing ripe spores. The organism consisted of a spherical body with a definite but narrow hyaline, non-nucleated capsule, around which was a layer of thin, flattened, squamous epithelium derived from the epithelium of the crypt. Within the capsule was a thickly crowded mass of unripe granular spores, staining bluish with hematoxylin. Only an occasional nucleus could be made out. The structures were all imbedded in the desquamated epithelium, which was heavily infiltrated with polymorphonuclear leukocytes and might have been termed a cryptic abscess. Beyond this there was no evident reaction of the tonsillar tissues to the presence of the parasite. None was found in the lymphoid tissue or stroma. The process was purely a crypt infection. Although this parasite is unknown it suggests a very close relationship with Rhinosporidium Seeberi.

Book Review—Bedside Interpretation of Laboratory Findings. Michael G. Wahl, M.D.

The author does not discuss the technical methods in any detail, however, various methods are outlined and can be contrasted with other methods. What laboratory examinations that are imperative are stressed and information is given with respect to what examinations are dispensable and what are indispensable. Probably the dominant idea of the author is to get a closer relationship between the laboratory and clinic, and to acquaint the general practitioner with the more recent advances in scientific medicine. The fact is emphasized that the laboratory report is not a diagnosis itself but merely an adjunct. The importance of tissue diagnosis by well trained pathologist is stressed. This is an excellent book for both the specialists and general practitioner to have in their library and by referring to it probably more personal interest would be stimulated between the doctor and his patient.

DERMATOLOGY

By E. E. Brown, M.D.
Doctors Building, Nashville

Treatment of Psoriasis, by William H. Goeckerman, M.D., Rochester, Minn. Archives of Dermatology and Syphilology, September, 1931.

This article is a continued observation on the use of crude coal tar and ultraviolet light. The first article was published in 1925. Since that time the author has observed many cases and admits that this treatment has given far better results than any method he has ever used. It is apparently based upon a photosensitive preparation. His technique is as follows: The patients are hospitalized, but this is not absolutely necessary. Under hospital conditions an ointment containing from 1 to 5 per cent crude coal tar is applied about one-eighth inch thick to various patches. The formula for this oinment is as follows: Crude coal tar from one-half to one and a half drachms. Zinc oxide, one ounce, and enough petrolatum to make four ounces.

This ointment is permitted to remain on the patches until the next day, at which time the excess is removed with olive oil. A thin film, enough to look like a brown stain, is purposely allowed to remain. These patches are then exposed to the quartz lamp, beginning with a very light exposure in order to avoid any particular reaction. The beginning exposure is usually one minute at 30 inches distance. This exposure is lengthened by one-half minute each day for four or five exposures. A severe erythema is not to be produced.

INTERNAL MEDICINE

By R. B. Wood, M.D.
C. J. Carmichael, M.D.
Knoxville

Achlorhydria and Anemia. Eli Moschcowitz in Archives of Internal Medicine, Aug., 1931.

The author concludes that achlorhydria is such a constant sign in pernicious anemia that probably no case is valid unless achlorhydria is present.

Achlorhydria is not the result of the disease but is primary. Evidence for this is shown in the fact that there is no diminution of hydrochloric acid in the progress of a case of pernicious anemia and that achlorhydria is present from the onset, that achlorhydria persists in the stage of remission and that it has been found frequently for years before pernicious anemia became manifest.

Achlorhydria occurs normally in a small percentage of persons. In order to determine this percentage, it is essential that mass studies be made with not only the fractional method of testing gastric secretion, but the tests with neutral red and histamine as well. The percentage of persons with achlorhydria apparently increases with each decade. It is extremely rare in childhood.

Achlorhydria is often present in certain families. In families in which a case of pernicious anemia has occurred, the incidence of achlorhydria is much higher than normal. As this incidence increases in each decade and as achlorhydria is exceptional in childhood, achlorhydria itself is not transmitted, but only the tendency thereto.

Pernicious anemia is often hereditary and familial. Whether pernicious anemia is always hereditary and whether it is a dominant or recessive character and transmissable according to the mendelian law cannot be determined until such families are studied with particular reference to achlorhydria and with accurate hematologic examinations being made for three generations at least.

The available evidence is not convicing that bothriocephaluslatus causes pernicious anemia. There is ground for believing that such reported cases represent instances of true pernicious anemia that happen to be associated with infestation with bothriocephalus.

There is a definite relation between achlorhydria and anemia, of the pernicious, secondary and chlorotic types. The blood of relatives of patients with pernicious anemia shows changes, which sometimes may be regarded as the earliest or preclinical evidence of the disease. For diagnostic purposes, it is important to recognize this phase.

The development of pernicious anemia after an acquired achlorhydria, for instance after complete gastric resection, has not definitely been proved.

Many of the so-called "severe anemias" of pregnancy (exclusive of those due to hemorrhage or sepsis) represent cases of true pernicious anemia in which the patients have become pregnant. Whether the pregnancy is the inciting factor in patients with a constitutional tendency remains to be proved.

The anemia of sprue is often associated with achlorhydria. It is not yet established how often achlorhydria is acquired or is a constitutional tendency in this disease.

Achlorhydria is the most tangible, but not the only evidence of the constitutional background of pernicious anemia. In all probability pernicious anemia represents a combination of a deficiency disease and a lack of a gastric hormone.

The Heart in Thyroidism. Henry M. Thomas, M.D. Annals of Internal Medicine, Aug., 1931.

The author concludes that the heart, like the rest of the body, responds to hyperthyroidism by being speeded up. Given a normal young cardiovascular system, this speeding up is a matter of little or no consequence. On the other hand, given a heart which is weakened by advancing age or heart disease and then the constant acceleration from hyperthyroidism frequently leads to congestive heart failure. In either instance removal of the hyperthyroidism allows the heart to regain, both functionally and structurally, its pre-hyperthyroid condition.

The Status of the Heart in Myxedema, by C. L. Tung, M.D. The American Heart Journal, Aug., 1931.

This study is based on an analysis of the hospital records of eighteen cases of definite myxedema with an average basal metabolic rate on admission of minus 33 per cent. The average age of these patients was forty-seven years. Seven of these patients showed evidence of cardiac insufficiency; nine had enlargement of the heart; seven had hypertension, and in seven a definite generalized arteriosclerosis was noted. There did not appear to be any definite relation between the presence of hypertension or arteriosclerosis and the duration of the myxedematous state. The symptoms and signs of cardiac weakness disappeared under thyroid medication. In all cases, the electrocardiogram showed P-waves and QRS-waves of relatively small amplitude. The most striking abnormality was the flattening or inversion of the T-deflection which disappeared after treatment in the seven cases in which the electrocardiographic examination was repeated after the basal metabolic rate had returned to normal.

OBSTETRICS

By James R. Reinberger, M.D.
416 Medical Arts Bldg., Memphis

The Ascheim-Zondek Test (Friedman's Modification) As An Aid in Differentiating Early Pregnancy from Other Pelvic Conditions. By B. T. Beasley, Southern Medical Journal, Vol. xxiv, No. 9, 1931.

This paper gives a brief review of the literature showing the accuracy of this test and the present knowledge of the Ascheim-Zondek test is summed up upon the following facts: (1) Ovulation takes place in response to hormone stimuli either artificially or naturally; (2) this hormone is produced by the anterior lobe of the pituitary body; (3) during pregnancy the hypophysis produces more of this hormone than is needed for the body economy and the excess is eliminated in the urine, milk and amniotic fluid; (4) this hormone has been recovered and compared with the known extract of the pituitary body; (5) by actual tests, urine of pregnant women, when injected into female mice, three to four weeks old, or female rabbits, twelve to fourteen weeks old, will produce artificial ovulation ninety-eight times in a hundred injections; (6) A. Ascheim and Bernard Zondek obtained 98 positive reactions in 100 injections in white mice in their clinic.

A discussion is given as to the type of cases that it has of value in aiding the differential diagnosis, such as early pregnancy, ectopic pregnancy, hydadidiform mole and chorion epithelioma, phybroid tumors and diseases of the tubes.

A series of 52 injections of female rabbits that have been isolated since the fourth week and injected at the fourteenth week are reported: Of the 52 rabbits injected 25 were from women who were known to be pregnant, but for the discrepancies in five cases the positive test returned in 100 per cent of the cases. Fourteen rabbits were injected with urine from women who were known not to be pregnant all giving negative findings. Thirteen rabbits were injected with urine of women in whom a differential diagnosis was sought. Of these one was from a hydadid mole, which had been curetted and a positive reaction occurred. In two five weeks pregnancies one gave a positive reaction and one a negative reaction, but the latter became positive at the end of eight weeks. One patient three months pregnant was having hemorrhage. Her first and second test was negative, evidently having aborded. One case was a four months pregnancy with a negative test and subsequently aborded a dead fetus. Two women with enlarged uteri from phybroids were injected, but in whom the thought of possibility pregnancy. Both tests were negative and operation concurred. Two hemorrhage cases were negative and were not pregnant. Two cases where early pregnancy was suspected with positive reaction. Two were early suspected pregnancies with negative reaction. The latter proved not to be pregnant. The other three injections were in rabbits too young to make an accurate reading and autopsy.

The reviewer feels that this article is in accord with most of the articles showing the accuracy of the Ascheim-Zondek test for pregnancy. He feels that Friedman's modification of using rabbits has simplified the test as well as the accessibility of animals. There is no question that providing the rabbits have been isolated from four to twelve weeks not only away from males, but from females, that great reliance can be placed upon same. To date he has used the test in early suspected pregnancies and those in which a positive diagnosis otherwise could not have been made and has found a 100 per cent accuracy. He is reporting a case at present of tubal pregnancy with minute rupture and was waiting upon the results of his test when frank rupture of the tube occurred. The test remained positive. Likewise, the urine of a patient with a chorio epithelioma suspected and is waiting upon results of this test.

OPTHALMOLOGY

By Robert J. Warner, M.D.
Doctors Building, Nashville

Pathogenetic Relationship of Trauma to Orbital Sarcoma. A. Trettenero, American Journal of Ophthalmology, Sept., 1931.

One month before consulting the author, a three-year-old child had fallen on the ground, striking the right orbital region on an apple which she had in her hand. The eye had been disturbed for three weeks but had been apparently cured by topical application. The sight then began to fail, and iridocyclitis developed with almost total opacity of the lens. The inflammatory condition finally disappeared, after which the traumatic cataract was removed. Recovery was normal. Some two weeks later the eye presented exophthalmos, with great distress, limited motion, increased tension, diminished vision, turbid vitreous, and an elevation of the retina in the superior and inferior internal quadrants. Enucleation was performed. The eyeball was found to be enlarged, especially in its posterior segment. On sectioning, a growth was found to occupy the lower posterior portion of the eyeball. This growth had pushed forward the iridolenticular system and had eroded, but not perforated the sclera. It was of a reddish-brown color. Sectioning showed sarcoma with prevailing pigmented cells. There was no evidence of degenerative changes. In the author's opinion a preexistent neoplasm was hastened by the traumatism.

ORTHOPEDIC SURGERY

By Robert F. Patterson, M.D.

Medical Arts Building, Knoxville

Support for Paralyzed Hands in Crutch Walking. By Nicholas S. Ranshoff. Journal Bone and Joint Surgery, June, 1931.

A very difficult problem in cases of infantile paralysis is the handling of cases requiring crutches, but unable to use them on account of paralysis of the muscles controlling the hands. Miss Sterling at the Convalescent Home for Hebrew Children at Rockaway Beach, New York, has worked out a simple and effective means of overcoming this difficulty.

In paralysis of the dorsi flexors the position is maintained by attaching a webbing strap to one leg of the crutch one and a half inches above the handle carrying the other end around the other leg and buckling it across the dorsal aspect of the wrist. This prevents volar flexion.

In complete parlysis and in paralysis of the flexors a canvas mitten is used. To the end is attached a tape likewise to the wrist portion. In applying the mitten the fingers are bent around the crutch handle and the end tape is carried as a figure of eight around the wrist. Then the wrist tapes are tied snugly around the wrist and are then carried around the crutch upright in such a way as to hold the wrist in slight dorsi flexion.

Luetic Synovitis of the Knee. By Julius S. Nevias, M.D. Journal Bone and Joint Surgery, July, 1931.

"Although Leutic Synovitis of the knee is a known definite clinical entity it is not often diagnosed especially in the early stages." This is partly due to lack of Wasserman and negative x-ray findings.

He calls attention:

1st. Common form of synovitis in heriditary syphilis in children with persistent hydrops in both knees.

2nd. Constant negative x-rays in these early cases.

3rd. Importance of examination of both joint fluid and blood by Wasserman test, as the former may be positive and the latter negative.

4th. We should always suspect lues in a relatively painless chronic hydrops unless both joint fluid and blood Wassermans are negative.

Treatment: Anti luetic usually cures the condition; occasionally synovectomy may be necessary.

OTOLOGY, LARYNGOLOGY, RHINOLOGY

By W. G. Kennon, M.D.

Doctors' Building, Nashville

Ultra Violet Light in Tuberculosis of the Larynx. By Benjamin Katz, M.D., Los Angeles. Archives of Otolaryngology, Vol. 14, No. 1. July, 1931.

Katz emphasizes the fact that tuberculosis of the larynx is part of general tuberculosis. The improvement of the laryngeal condition depends most on the general improvement of the patient's condition.

It has been proven by many observers that general irradiation is beneficial in tuberculosis. The improvement depends on changes in calcium metabolism. While some think that the general action of the rays is most important, experimental, and clinical observations mentioned by the author prove that the local action is of significant benefit.

Treatments of the tuberculous larynx with ultra violet rays are of value as an auxiliary measure. Though some physicians use only the ultra violet rays in the treatment of the larynx, the author is not enthusiastic about confining the treatment to this method alone.

If ulceration of the larynx is present, treatments with trichloracetic acid are advocated. In cases of edema or infiltration electro cauterization is preferable. As pain and inflammatory reaction after electro cauterization are due to secondary infection of the wound, the cauterized area should be touched with trichloracetic acid immediately following the cauterization. This acid forms a white slough over the wound which prevents secondary infection with ordinary organisms and tubercle bacilli.

The application of the acid likewise decreases the pain of the reaction and increases the shrinkage of the infiltration or edema.

The author has modified the technique by inserting into the larynx a rod like quartz applicator attached to a Kromayer lamp. This is introduced through a direct laryngoscope, with a small electric globe attached, makes possible direct contact of the ultra violet light to the diseased area under visual control. The exposure last two minutes and is repeated every third or fourth day. In accordance with individual tolerance the exposure is increased to five minutes. The mucous membranes, owing to moisture and abundant blood supply, tolerate the ultra violet light much better than the skin does. Finsen demonstrated that the ultra violet rays are absorbed by the blood. Pottenger made the same statement. Therefore, a close contact of ultra violet light with the mucous membrane is not only possible, but is indicated and accomplished by the author's technic.

PEDIATRICS

By John M. Lee, M.D.
Doctors Building, Nashville

Hirschsprung's Disease Treated by Lumbar Sympathectomy. T. Wood Clarke, M.D., and Frederick M. Miller, M.D., Archives of Pediatrics. September, 1931.

Since the earliest recorded case of this disease by Parry in 1825, and the careful studies of Hirschsprung in 1886, little could be offered its victims more than palliative medical treatment or the formidable colectomy or colostomy with artificial anus. Since 1895, physiologists and clinicians have looked with increasing favor on the theory that this condition is the result of dysfunction of the nerves supplying the colon. In 1924, Royle of Australia, noted complete relief from a long-standing obstinate constipation in a patient on whom he had done a lumbar sympathectomy for spastic paralysis of the legs.

In 1926, Bartle of Philadelphia, recommended sympathectomy for the cure of Hirschsprung's disease, but it was not until the following year that his suggestion was acted upon, and Wade and Royle reported the first ramisectomy for this disease with excellent results. Since then seventeen cases have been operated upon with uniformly good results.

The authors add a report, the eighteenth in the literature, of a case of Hirschsprung's disease upon which they performed lumbar sympathectomy with complete relief to the patient. The patient was eight years of age, and the first symptoms were noted at six months of age. The authors feel that this procedure offers great hope of cure for this condition.

ROENTGENOLOGY

By C. M. Hamilton, M.D., and H. M. King, M.D.
Doctors Building, Nashville

The Effect of Experimental Cholecystitis on the Concentration Function of the Gall Bladder. Leo Darnbacher and Jacob Sacks, September, 1931, Radiology. Reviewed by Dr. C. M. Hamilton.

The Graham-Cole method of gall bladder study makes the estimation of bile concentration more accurate. Gall bladder injury was done to try to determine the cause for disagreement between x-ray and pathologic findings. Case believes cholecystography 93 per cent accurate. Chandler and Newell state that a 36 per cent error was found in stone free cholecystitis cases. They conclude that a normal shadow may occur in diseased gall bladder and that a failure to visualize may result from slight disease.

The gall bladder was injured by three methods and studied during acute and late stages. The methods of injury: (a) x-radiation, (b) intravenous injection of Dakin's solution, (c) injection of mustard oil into lumen of gall bladder. Dogs were used.

Experiment

A constant routine was followed. The dogs were fed bread, cornmeal mush and milk. Food and water were not given on the day of dye injection. Dye injections were made 7-8 p. m. Radiograms were made 9-10 a. m. the following day.

All dogs were necropsied a few minutes after the last cholecystogram. The bile was drawn and gall bladder was mounted and placed in formalin.

X-ray Cholecystitis. Cholecystograms were made twelve days after irradiation. Five dogs were necropsied at once. Five others were allowed to remain three months longer. Cholecystograms were made periodically.

Dakin's solution cholecystitis. The technique of Mann was used. Three dogs killed within 24 hours showed hemorrhagic cholecystitis. The hepatic and common ducts were free of injury. Five surviving dogs were radiographed at two week intervals for three months.

Mustard oil cholecystitis. Mustard oil was injected into the gall bladder for 30 to 60 seconds. Cholecystograms were made second or third day afterwards. One set of dogs was killed immediately. Others were studied for three months. Two dogs having had saline injection showed normal cholecystograms on third day.

Results

X-ray Cholecystitis. (1) Acute cases. Three showed gross pathology. Two of these gave good shadows. One failed. All gall bladders show inflammation microscopically (2) Chronic Cases: Five dogs. Four presented good shadows and one failed, twelve days after irradiation. Progressive dimunition of the shadows was observed from four to eight weeks after irradiation. After ten or twelve weeks, normal cholecystograms were obtained in four dogs. One failed. In this a typical hydrops gall bladder was found. The specific gravity of bile in four cases was normal.

Dakin's solution cholecystitis. Normal shadows were found in all the acute cases. As the lesion progressed the density diminished in four of the five dogs. Three months later, two appeared normal. One fair, and two failed to visualize. The bile specific gravity varied also.

Mustard oil cholecystitis. (1) Acute. Seven dogs were used. Two gave good shadows. Five failed to visualize. (2) Chronic. Of the five that failed to visualize in the acute stage, normal shadows were obtained after four to six weeks.

Discussion

The density of shadow corresponded to the specific gravity of the bile as a rule. Therefore, the Graham-Cole test is good index to concentration ability. The pathologic changes are not so well defined by cholecystogram.

Dakin's solution injures the subserosa and does not interfere with concentration so much. The mustard oil injured the mucous membrane most and naturally inhibited concentration most. The x-ray irradiation injured all layers, but did not inhibit concentration of bile very much in early stages. X-ray injury heals slowly. Therefore, most damage was shown at eighth week. The Dakin's solution cases were similar to those irradiated, but they did not seem to recover so readily.

It is thought that the mustard oil cases are similar to infection ascending from duodenum. Dakin's solution and x-ray injury are analogous to the more common types of infection, involving the deeper layers, leaving the epithelium.

Conclusion

1. Acute experimental cholecystitis may or may not inhibit concentrating ability, depending on amount and location of injury.
2. Acute chemical injury to mucosa causes loss of concentration, but soon recovers.
3. Acute experimental inflammation to deep layers may not cause a loss of function. Later a loss of function may take place. It does not always recover.
4. Graham-Cole test is an accurate index to concentrating ability of gall bladder, but does not indicate the amount of pathology that may exist.

SURGERY — GENERAL AND ABDOMINAL

By John L. Dies, M.D.

1213 Exchange Building, Memphis

Results in Relation to the Site of Amputation in Thrombo-Angiitis Obliterans. Charles F. Burke, M.D., and Henry W. Meyerding, M.D., F.A.C.S., Rochester, Minnesota. Surgery, Gynecology and Obstetrics. Vol. liii, Sept., 1931, No. 3, pg. 389-394.

If amputation becomes necessary in cases of thrombo-angiitis obliterans, it is often difficult to decide on the proper site for operation. Such a decision is of great importance, particularly since, in young persons, conservation of as much of the extremity as possible is highly desirable. We present here the study of 102 amputations in cases of thrombo-angiitis obliterans which was made to determine, if possible any valid criteria by which the operative site might be chosen.

Our study was confined to procedures on the lower extremities, not including amputation of the toes or portions of the foot because there procedures can usually be employed only in cases in which there has been sudden thrombosis of the vessels of the toes with either of both of the main vessels of the foot pulsating normally, or (4) in selected cases, in which the blood supply has been enhanced by previous lumbar sympathetic ganglionectomy. Our interest in the individual case lies chiefly in whether the extremity can be successfully amputated below the knee or above it.

Sixty-four of the 102 operations were performed at the Mayo Clinic, and 38 were performed elsewhere. This series includes the group previously reported by Allen and Meyerding.

Of the 45 cases in which amputation was performed below the knee at the Mayo Clinic, healing occured by primary intention in 28. Healing was delayed in 8 cases and absent in 9. In the latter, high amputation was necessary. In 25 cases amputation below the knee was performed elsewhere than at the clinic. In 18 primary healing apparently occurred, according to the patient's statement. Healing was delayed in 8 cases and in one case higher amputation was necessary later. In the 70 cases healing by primary intention occurred in 46 (66 per cent). Healing was delayed in 14 cases (20 per cent). Thus 86 per cent of the amputation below the knee were ultimately successful. In 10 cases (14 per cent) higher amputation was necessary.

In 19 cases amputation was performed above the knee at the Mayo Clinic. In 17 cases the wound healed readily and in two cases healing was delayed. Amputation above the knee was performed elsewhere in 13 cases. In 10 cases primary healing apparently occurred; in one case healing was delayed, and in two cases higher amputation was necessary. Of the total of 32 cases, healing by primary intention occurred in 27 (84 per cent). Healing was delayed in 3 cases (9 per cent). In two cases (6 per cent) higher amputation was necessary.

In the entire series amputation was performed below the knee in 59 per cent and above the knee in 41 per cent. The cases of amputation below the knee included those with primary healing and those with delayed healing. The cases of amputation above the knee include those in which the amputation was performed directly above the knee because it was the site of choice, and cases in which healing below the knee was not satisfactory.

The successful amputations below the knee were compared with those that were not successful and with those in which amputation was directly above the knee.

A history of previous superficial phlebitis apparently has no bearing on the prognosis of amputation. In cases in which there was oedema and in which postural drainage had been carried out before amputation, the wound healed as well as when oedema had not been present. The extent of gangrene is not significant except when it involves the leg and knee also. Rest pain, the varying degrees of exercise pain, and the duration of the disease have no prognostic value in regard to amputation. It is possible that in a larger series of cases these phases of the subject would have greater significance.

The age of the patient has little influence on the success of amputation at different levels except in older subjects. The ages range from 21 to 62 years. Sixty-six per cent of the amputations were performed on patients between the ages of 30 and 44 years. Amputation was performed successfully below the knee on one patient aged 59 years. In general, if the patient is past middle age, amputation is more safely performed above the knee.

The predilection of the disease for Hebrews has been widely discussed. On this account race was considered. Eighteen of the 102 amputations (17.6 per cent) were performed on Hebrew patients. Slightly less than 40 per cent of the total number of cases of thrombo-angiitis obliterans thus far observed at the Mayo Clinic have occurred among Hebrews. The remaining 84 amputations (82.4 per cent) were distributed among patients of many nationalities. There was no variation in the healing among the nationalities.

The significance of tobacco has been much stressed by certain writers. Ninety-four per cent of the patients in our series were known to use tobacco in varying amounts. Nothing of significance was revealed by a consideration of the amount used by the groups.

The patency of the vessels may be of significance. There is a suggestive relationship between the extent of patency of the femoral artery and the results of healing. In the group of cases in which operations below the knee were not successful, all of the recorded femoral pulsations indicated some impairment and in two-thirds of the cases the impairment was marked. This fact may be of significance and should be studied in a larger series. The popliteal artery often is palpated with difficulty. Too much emphasis should not be placed on its relationship to healing. This is demonstrated by the fact that its pulsation could not be felt in 37 per cent of the cases in which amputation was successful below the knee. It was palpable in some of the cases in which healing below the knee was not successful. The patency of the lower arteries is probably of no significance. We believe that in determining a site for amputation the femoral artery should be given greater consideration than the popliteal artery.

Treatments by means of typhoid vaccine (3, 5, 6, 8) and radiant heat was employed in many cases to improve the blood supply before and after the operation. We believe that these are useful measures and that through them the success of amputation can be augmented. The vaccine might be given intravenously four or five times preceding amputation and could safely be given again two or three days after the operation.

Besides the age of the patient and the extent of the patency of the arteries of the extremities, the general condition should be considered in choosing a site for amputation. The condition of the tissues at the proposed site of amputation is important also. If the muscles are greatly atrophied, healing may not be satisfactory below the knee. Palpation frequently reveals a distinct change of temperature in the skin. This may be of aid in determining the site of amputation.

The salt solution test of Aldrich and McClure (2, 9) which has been employed by Cohen and by Stern and Cohen to determine the circulatory deficiencies in the extremities did not, in our experience, give further information than is obtained by simple clinical study. Histamine reactions on the skin, as carried out by Starr, to determine the status of the superficial circulation have been used in a small number of cases. As yet sufficient study of this type has not been made in cases of thrombo-angiitis obliterans.

Increasing conservatism in the treatment of thrombo-angiitis obliterans at the Mayo Clinic may be noted in Table VII. Of the 424 cases observed from 1909 to 1929, inclusive, amputations had been performed at the clinic in 68 (16 per cent), and elsewhere subsequent to treatment at the clinic in 53 (12 per cent), a total of 28 per cent. These results do not agree with the less optimistic outlook of some authors on this subject. One of whom is of the opinion that most cases progress until amputation is necessary (10). Amputation in cases of thrombo-angiitis obliterans in the Mayo Clinic is becoming less common during the five-year period from 1925 to 1929 were 8 per cent less than during the five-year period from 1920 to 1925. This is no doubt due to earlier diagnosis of the disease, and to a better application of therapeutic measures. The efficacy of fever therapy by means of typhoid vaccine has been well demonstrated (3, 4, 6, 8). Furthermore, in selected cases sympathetic ganglionectomy is followed by gratifying results (1). Illustrations of stumps are shown in Figures 2 and 3. A roentgenogram of stumps is shown in Figure 4.

Summary—One hundred two cases of amputation in thrombo-angiitis obliterans were studied without establishing any criteria for determining a site for amputation. However, the extent of patency of the femoral artery may be of significance, the age and general condition of the patient, and the condition of the tissues at the proposed operative site are probably of significance.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,
and F. K. Garvey, M.D.
Medical Building, Knoxville

The Prevention and Treatment of Acute Gonorrheal Urethritis. Edgar Ballenger, O. F. Elder, and H. P. McDonald, Atlanta, Ga. Am. Jour. Urol., Sept., 1931.

Ordinary prophylactic measures against gonorrhea are not considered effective if administered later than five to six hours following exposure. Ballenger and Elder by means of sealing solutions in the anterior urethra with collodion for a period of three to five hours claim to have gotten perfect results in all except one case in thousands of cases where the exposure was even as late as 48 hours. This one case developed the infection but was cured by the sealing method in one treatment.

The majority of patients seeking prophylactic treatment had no reason of fearing gonorrhea except the loose character of their partner, yet undoubtedly many of this number would have been infected except for the treatment.

Their technique is as follows:

1. For patients exposed 48 hours, one injection of twenty to thirty minims of argyrol sealed in urethra with U. S. P. collodion for a period of three to five hours.

2. Two daily injections when three days have elapsed.

3. Three daily injections if four days have elapsed.

Occasionally cases where the discharge and symptoms have begun and the gonococcus can be demonstrated, abortion of disease has been brought about in a few days by the same method.

The authors advise against using two injections a day; also against persisting in the method after the meatus has become swollen and irritated. In such cases as well as those where the patient reported too late for the abortive treatment, they advise starting the so-called routine treatment which is well known among urologists.

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CONGENITAL MEGALO-URETER*

W. D. ANDERSON, M.D., Chattanooga

ANOMALIES of the urinary tract in infants are not rare. Bugbee and Wollstein (2) in 1924 reported 4,903 autopsies, performed routinely at the Babies' Hospital of New York. Anomalies of the urinary tract occurred in 2.3 per cent of these cases; 101 of the 117 cases were under one year of age. In 1928 Bigler (3) reported from the Children's Memorial Hospital of Chicago, 153 autopsies, 85 per cent of which were under four years of age, with definite anomalies of the urinary tract in 13 per cent, all of which could be explained on the basis of congenital obstruction. Schippers and DeLange (5) reported from Amsterdam in 1928 an instance of 7 per cent anomalies of the urinary tract in all autopsies performed in the past fourteen years. Campbell and Lyttle (4) in 1929 reported 2,420 necropsies performed at Bellevue Hospital, 80 per cent of which were under two years of age, 2 per cent showing a gross evidence of ureteral obstruction. Hurt (6) 1929, in reporting 101 necropsies on infants under two weeks of age in which 5 per cent showed anomalies of the urinary tract, 63 of these autopsies were on stillborns and of the 5 per cent only 3 per cent of the lesions were compatible with life for any length of time.

Anomalies occurring in childhood or in later life may be congenital or acquired. Anomalies occurring in the first few weeks can safely be presumed to be congenital. The occurrence and subsequent dangers of such conditions have been pointed out previously by Stevens (1), Bugbee (2), Kretschmer and Helmholtz (7), Kretschmer (9), Abt (8), Helmholtz (10) and others, all of whom have stressed the necessity and feasibility of complete urological examination on all children having urinary troubles that are not relieved by the usual treatment, in a reasonable length of time. This being particularly true in cases showing pus persisting or frequently recurring in the urine. Among the anomalies of the urinary tract anomalies of the ureter are not infrequent. There are three types, those of variation in number, variation in insertion and variation in size. Caulk (11) 1922, pointed out that the occurrence of variation in size are the second most frequent found. He also states in speaking of cases of congenital obstruction and dilatation of the ureter, "such hydro-ureters with their associated hydronephrosis are usually incompatible with life and most of the individuals die in infancy." Caulk reported in the same paper a case presenting the following findings:

"Enormously dilated ureter without demonstrable obstruction at the lower end and without corresponding enlargement of the renal pelvis and without changes in the renal function commensurate with such a degree of ureteral dilatation." Caulk considers this condition probably of congenital origin and somewhat analagous to Hirschsprung's disease.

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*Read before the Tennessee State Medical Association, Knoxville, April 14, 15, 16, 1931.

The case history which we wish to present to you while not meeting all the requirements of the conditions described by Caulk is probably of the same type.

Baby—J. G., Dayton, Tennessee. Child was seen in consultation October 5, 1930.

The family history was essentially negative.

Birth History—This is the first child. He was born at full term of a rather difficult labor. His condition was normal up until the beginning of the present illness.

Present Trouble—When about ten or twelve days of age he became extremely restless and fretful and vomited milk frequently. Bowels became extremely loose and contained considerable mucous. At that time marked abdominal distention appeared, this persisted for two or three days and then subsided rather suddenly. During this time as far as mother knows urine was passed frequently, but not in large quantities. Following this upset child seemed to do well up until five days ago. At that time he became very restless and irritable, cried a great deal, slept practically none at all, bowels moved from twelve to fifteen times a day and there was marked vomiting. Abdomen was markedly distended and distention has increased. Three days ago he was seen by a pediatrician and a diagnosis of underfeeding was made. He was given lactic acid milk in addition to the breast milk. Up until the present time vomiting has been marked and bowel movements have increased in number. For the past three days child has been running temperature of two or more degrees. He has passed his urine frequently but in rather small amounts and there has apparently been no more pain at time of urination than otherwise.

Physical Examination — An extremely toxic, poorly nourished white male infant, twenty-eight days of age. Child seems to be in pain. Skin is markedly pale and moderately dry. Examination of chest shows heart sounds to be moderately slowed and extremely forceful. No murmurs are made out. Lungs are negative. There is marked dilatation of the veins over both sides of the chest, this is possibly more marked on the right side. Abdomen is markedly distended. There is a tympanitic note over the entire left side of the abdomen and this extends across the abdomen above the symphysis into the right iliac fossa. Percussion over the bladder shows no sign of distention. Liver dullness is forced upward. On the right side there is a flatness over an area extending from the anterior axillary line to within 2 c.m. of the rib margin. On palpation a large mass is felt in the right side of the abdomen, this mass occupies the position of the dullness previously described. It apparently does not occupy the right kidney fossa. It ends abruptly near McBurney's point below and in a similar manner just beneath the rib margin above. It is apparently cystic in character, is smooth and not lobulated. A very definite sharp border is felt near the midline. The mass is not freely moveable.

Examination of the external genitalia shows no malformation, but child needs circumcision. During the examination child passed moderate amounts of urine twice.

X-ray Examination—X-ray pictures of the stomach and colon were made to determine if possible the location of the tumor. These pictures were of negative value.

The child was seen the following day, October 6, 1930, and at this time he was somewhat more toxic and weaker. Temperature was 102. The mass previously described was more to the midline and has increased considerably in size. Mother stated that child had passed urine a number of times during the past twenty-four hours. The parents at this time were very anxious to have an exploratory operation performed to determine the character of this condition. We felt, however, that we should first eliminate the possibility of dilatation of the ureter and diverticulum of the bladder; with this in view we catheterized the child with some difficulty. At first a small quantity of urine was passed, possibly 20 c.c. After some manipulation of catheter urine began to flow freely from it and approximately 200 c.c. of urine was obtained. Following this the child was much more comfortable and the mass in the right side of the abdomen was markedly decreased in size, but has not completely disappeared. A diagnosis of dilatation of right ureter or enormous diverticulum of bladder was made.

The following day child's temperature was normal, urine was passed normally, bowel movements had decreased to three a day and he was very comfortable. Examination of urine showed twenty to thirty pus cells to the high powered field and a trace of albumin. Blood count was of no particular interest. Child was placed on urinary antiseptics and was given one-eighth grain luminal three times a day and continue on the previous feeding.

On October 9, 1930, child was seen in the office and the general condition was much improved. Abdomen was slightly distended with gas but no mass could be made out. Weight at this time was 6 lbs. 12 oz.

October 23, 1930, child was again seen and there had been no recurrence of the previous trouble. Weight was 7 lbs. 14 oz. Examination of urine was negative for pus.

On November 24, 1930, child was again seen and mother stated that he had been doing nicely up until two days ago, at which time he refused his feedings. There had been moderate distention of the abdomen and some difficulty in urination. The night before the abdomen had become rather markedly distended and very little urine was passed during the night. This morning mother had given luminal and a hot enema, following which the child passed urine freely and has seemed comfortable since. Physical examination at this time disclosed no distention of the bladder, no mass in the abdomen and child seemed perfectly comfortable. Examination of urine showed abundant pus cells.

On February 11, 1931, child was again seen. Since the last visit he has had several attacks of temperature with some difficulty in urination. There has, however, been very little distention of the abdomen, no complete blocking of the urine and no mass in the abdomen. He has been circumcised and the difficulty of urination seemed to have followed this. Examination of urine shows a marked amount of pus. The organisms found were pure culture of staphylococcus. Catheter was passed into the child's bladder and 30 c.c. of twelve per cent sodium iodide was injected.

X-ray picture shows a bladder apparently normal in size and a marked dilatation and tortuous condition of the right ureter extending to the right kidney region, but not outlining the kidney pelvis. Practically the entire amount of sodium iodide was expelled through the catheter immediately after examination.

Following this examination child has been doing splendidly, has had practically no trouble with urination. On March 7, 1931, his general condition was splendid, weight was 13 lbs. 13 oz. He has had no difficulty with urination, no temperature, and seemed perfectly normal with the exception that the right kidney was palpable.

He was seen in consultation by Dr. J. B. Killebrew, who advised continued observation and continuation of medical treatment.

There are a number of features in this case which we wish to call to your attention. The presenting symptoms are referable to the gastro-intestinal tract entirely, this being a rather frequent occurrence of the pyogenic diseases of the urinary tract. The recurrence of symptoms is suggestive of a probable kinking of the ureter rather than a congenital valve or stricture. The absence of any recurrence of the tumor since the first catheterization would seem to substantiate this. The ease with which the solution of sodium iodide entered the ureter from the bladder is very suggestive of a large patulous ureter. From the appearance of pus in the urine the day following catheterization we presume that infection was present a considerable time previously. The urine, although still showing a considerable quantity of pus, there is a gradual decrease in the amount present. The child's general condition is extremely good. He has gained seven pounds in five months.

It is of interest to note that a certain number of these cases may be diagnosed clinically without urological examination. We do not mean, however, that complete urological examination should not be made.

We realize, of course, that this child has not had a complete urological diagnosis. We have possibly been too conservative; for it is our belief that we are already getting some damage to the kidney, however, when first seen this child's condition would not have permitted surgical intervention and since that time he has progressed so nicely we felt that it would be to his advantage to carry him on for a few months longer before any major procedure is instituted.

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DISCUSSION

DR. W. R. CROSS (Knoxville): This case history and the complete findings just recited by Dr. Anderson show to a great extent what can be done by a very careful taking of history, physical examination, complete laboratory reports, and so on, which have been done recently in the field of pediatrics. Especially is this true in the newborn infant where the symptoms are very misleading and diagnosis is very difficult to make in a great many instances.

The question of parenteral infections has been mentioned to a great extent in the last few years. As Dr. Anderson said, the symptoms were entirely referrable to the gastro-intestinal tract when as a matter of fact the pathology was elsewhere. I wonder if in the last few years so-called athrepsia, malnutrition, occasional celiac disease, so-called difficult feeding cases, do not belong to this class, that is, some congenital deformity of the urinary tract, the gastro-intestinal tract, or elsewhere.

The question of recurrent pyuria was emphasized to a great extent by Dr. Anderson, as it should be. Given a case, especially of a female infant, where there is recurrent pyuria, the case should always have benefit of complete urological examination, with x-ray if necessary. I know of no group of men who have done more in the last few years to aid in the diagnosis of these cases than have the urologists. I should like to hear some of the urologists discuss the question of pyuria.

I think Dr. Anderson has handled the case certainly to great advantage, and it will be interesting to know what the final outcome will be with reference to surgery, bearing in mind always that the younger the child or infant, the poorer the surgical risk it is. After all, the pediatrician is a man doing general medicine whose field is limited to a definite age group.

I certainly have enjoyed hearing this case report. I should like very much to hear some of the urologists in the audience discuss the question of recurrent pyuria.

DR. F. K. GARVEY (Knoxville): I should like to say a few words from the standpoint of the urologist on this condition. I didn't know exactly what Dr. Anderson's paper would deal with, whether it would take in the other conditions of enlarged ureter, or just the megalo-ureter as named by Caulk, which dealt with the congenital condition.

As you know, before Caulk presented his case that undoubtedly was a congenital condition, the term megalo-ureter was not in use, but he described a case which fulfilled the requirements of absolute proof of a congenital condition by having an enlargement of the lower end of the ureter without any evidence of enlargement of the kidney pelvis or evidence of stricture at the lower end of the ureter or the intramural portion.

In this condition I think a true megalo-ureter is relatively rare, but we do see it occasionally. I have seen one case that I am absolutely sure was that type of case, and some others that were very suspicious of being congenital.

This congenital type may become manifest by symptoms arising from infection or from back pressure on the kidney in the early stage, as Dr. Anderson said, in very small infants; or it may not become manifest until old age. When you find the condition in old age where there is no history of recurrent pyogenic infection, it is very good proof that it is congenital, and that they have escaped infection until this time at which symptoms begin.

Not only the congenital types are found, but the most frequent types are those in infants where you have a narrowing of the lower end of the ureter, particularly the intramural portion, with infection superimposed upon it, and then, as in all other conditions in children, you get the violent symptoms, and very quickly we suspect some kidney condition.

This reminds me of the importance of subjecting children to a urological examination particularly in cases of persistent pyuria. In simple pyelitis, most children will go through the acute stage, and clear up spontaneously with the ordinary palliative treatment, such as alkalies, enforcing fluids, and so forth. We see very many cases of simple pyelitis that clear up spontaneously without any treatment at all. The ones that do not clear up and that tend to recur are very suspicious of having some anomalous condition in the urinary tract, not only in the ureter, such as stone, stricture, or congenital anomalies, but in the urethra. We find posterior urethral valves not infrequently in children, and symptoms from these may begin at birth or may not come on for years after birth. In this condition, of course, relief is obtained by removing the valve.

Very frequently in adults we find hydro-ureters and pyo-ureters, but they are nearly always associated with pyonephrosis or hydronephroses. In this condition you nearly always find obstruction or evidence of having had obstruction of the ureter at some time. In these cases, relief of course is obtained by dilating the ureter, or if the kidney is destroyed, by removal of the kidney and ureter.

We may find in men of the prostatic age, hydro or pyo-ureters from prostatic obstruction, and, of course, treatment there is removal of the obstruction in the prostate.

I think Dr. Anderson has brought us a very good paper and has certainly spoken with the pediatricians as to the importance of having urological examination, particularly in cases of persistent infection of the urinary tract.

I have a few slides that I should like to show on enlargement of the ureter, which probably deal with all types.

(Slide) This is a case that I believe is congenital enlargement of the ureter. There was very little enlargement of the kidney pelvis and there was no stricture at the intramural portion of the ureter. There may have been earlier and it may have been relieved at some time.

(Slide) Here is another case that looks very much like a congenital enlargement. This ureter, however, was filled with opaque solution, by cystogram showing that there was no stricture of the ureter; it may have been a congenital form, although there is some dilatation of the kidney. This patient, however, had had a persistent pyuria for years.

(Slide) This is a case of definite stricture of the lower end of the ureter. You can see the very narrow entrance to the bladder. There is also dilatation and loss of function of the kidney.

(Slide) This shows a small ureteral orifice. There is no regurgitation around the catheter. There is constriction up near the pelvic brim, and also constriction up in the region of the kidney, and the kidney was not filled on injection.

(Slide) This was a very interesting case, although the slide does not show the constriction which existed at the kidney pelvis. This patient had a perfectly normal kidney pelvis, although he had some pyuria, but he had multiple strictures of the ureter, and the worst one, I think, was at the ureteral pelvic juncture. This patient was entirely relieved by dilatation of the stricture.

(Slide) This is another case of pyonephrosis with a megalo-ureter and it is simply a case of infection.

DR. J. B. NEIL (Knoxville): I saw a man about a month ago who was referred by Dr. Fred West of Knoxville.

He was complaining of frequency of urination with a terminal pain and stranguary. He denied that he had ever had gonorrhea. Smears from his prostate gland were negative. Cystoscopic examination revealed a normal bladder with the exception of rigid golf ball ureter mouths. Urine obtained from separate kidneys was perfectly clear and there was no growth on culture the microscopical examination was negative.

Bilateral pyelograms showed perfectly normal kidney pelves. The ureters were very large beginning just below the pelvis and extending to the ureter mouths. They were uniform in size and there was no obstruction of any kind to account for the dilation. At first seeing the rigid gold ball ureter mouths I thought of tuberculosis, but subsequent examination ruled that out. I concluded the condition must be congenital megalo-ureters.

Urethroscopic examination proved he had a posterior urethritis. Possibly gonorrheal in origin.

DR. W. D. ANDERSON (Closing): I saw this case yesterday and the condition is still improving, there is considerable less pus in the urine. In these cases I believe that the clinical reports are rather scarce and that it would be of interest to follow this case through if we can. We hope to follow it right on through. Surgery may be resorted to.

(Slide) I did not feel at the time that I felt the mass (the only time I felt the mass was the first and second times I saw the child and it was perfectly smooth then) that those constrictions in there, that look like peristaltic waves, were strictures of the ureter, because a cystogram was made and only 30 c.c.'s of the solution were put in.

CEREBROSPINAL RHINORRHEA*

W. W. WILKERSON, M.D., Nashville

CEREBROSPINAL Rhinorrhea has proved a most interesting subject to me because of the many recorded mistakes in diagnosis of former years, and also due to the fact that many salient points of interest are still unknown.

There are two types of this rather unusual condition—those due to trauma and those whose etiology is unknown. The traumatic group is by far the larger and is of considerable interest in these days of workmen's compensation insurance. The condition is not unlike the escape of cerebrospinal fluid from the ear following injuries.

It seems that as late as the sixteenth century many of the physiologists and doctors considered the nasal cavity as the cloaca for the cerebrospinal fluid. Galen repeatedly speaks of an excremential liquid expressed from several points of the brain into the ventricles, especially into the fourth, where it is stored and then purged into the nose through the ethmoid bones and infundibulum. (1).

The fluid has been discovered, forgotten and rediscovered many times.

The first record of the escape of cerebrospinal fluid from the nose was by Bidloo, the elder, (2), in the latter half of the seventeenth century. However Blandin (3) in 1840 claimed to be the first to recognize this condition. Bosworth (4) in 1889 obviously observed several cases, but failed to recognize the liquid as cerebrospinal fluid. He placed this condition under the heading of "nasal hydrorrhea", along with nervous coryza and infections of the antra.

He believed the condition to be due to a vasamotor paresis of the nasal mucosa occurring chiefly in highly neurotic individuals. Charles Miller (5) in 1826 in Edinburgh was the first to show definitely that cerebrospinal fluid might spontaneously escape through the nose.

I will close the historical section of this essay by saying that the most complete description of this condition is to be found in the book, "The Cerebrospinal Fluid", by St. Claire Thompson, published in London in 1899.

Some of the men present may be interested in reviewing some of the salient facts in regard to the normal cerebrospinal fluid. Much experimental work has been done on its source, location, physical and chemical properties, and absorption. Owing to its very nature and location many different hypotheses have been brought forward. Therefore, I shall not quote any author, but rather give a consensus of the accepted opinions.

Facts testify that cerebrospinal fluid is not a transudation from the blood or lymph stream. It is generally agreed that it is secreted by the choroid plexus and this secretory action is highly selective. Hence, it contains no agglutinins, amboceptors, or complements. Only few chemicals injected into the blood can be recovered in the cerebrospinal fluid.

The fluid is to be found in the ventricles of the brain and in the sub-arachnoid space of the brain and spinal cord. It also lies in the perineural sub-arachnoid space surrounding the cranial nerves. Of special interest to us, the sub-arachnoid space surrounds the entire inner ear, cochlea, utricle, saccule and canals, the olfactory nerve and bulb as far as the cribiform plate. It surrounds the optic nerve to the globe where it lies within the capsule of tenon. It surrounds the vagus to the episternal notch, and likewise the hypoglossus almost to the base of the tongue. It follows the spinal accessory for two centimeters below the base of the skull, and also for a short distance along the anterior and posterior roots of the spinal nerves.

Normally the amount of fluid in the adult is estimated to vary from 100 to 150 c.c. The normal cerebrospinal fluid is colorless, of crystalline clarity, transparent, and no sediment forms on standing. Its freezing point approximates 57 degrees C. It is alkaline in reaction. Specific gravity evidently varies slightly, but for general purposes we may state that it is 1.007. Viscosity varies as to the protein concentration and other factors. It contains four to six cells per cubic millimeter. Chemically it is composed of 996.67 parts water. It contains some 19 or 20 different chemical combinations: mainly chlorides, ash, Na2O, Cl., and a small amount of glucose. It is a generally accepted fact that the glucose is delivered to the spinal fluid from the blood by the route of the choroid plexus.

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*Read before Eye, Ear, Nose and Throat Section, Tennessee State Medical Association, Knoxville, April 14-15, 1931.

As to its absorption I shall quote Weed. (6). "That the cerebrospinal fluid returns to the blood circulation there can be no doubt. Absorption occurs chiefly into the great sinuses of the dura by way of the arachnoidal villi, passing through the substance of the cells composing the villi and the myxomatous ground work of the mesodermal lining of the villi."

I shall report a case of cerebrospinal rhinorrhea which presented many interesting features.

Patient (A. E.), a white female, age 38, highly neurotic and somewhat emaciated, presented herself to me with the following history:

Nothing of significance was present in the family tree. Since childhood she had been irritable and subject to hysteria. When a child she had diphtheria and typhoid fever. Her appendix was removed twelve years ago. She stated that her right ear had discharged since childhood until a mastoidectomy of the right ear and a submucous resection were done about eight years ago. For the past four years she had had frequent colds and sore throats. Was in an automobile accident four years ago. At that time she lost consciousness for a few minutes but was able to work the following day. No general symptoms were apparent. Since then she had had no illness until the present condition manifested itself some fifteen months ago.

The trouble began with acute coryza, with a copious, clear discharge. The coryza subsided in the usual time and manner, but the discharge continued from the right side of her nose. However, she did not consult a physician for months, and probably would not at that time had she not developed left acute mastoiditis. A left mastoidectomy was performed and she made an uneventful recovery. The nasal dripping was investigated at this time and the patient was told that it was spinal fluid. Since the last mastoidectomy was performed, which was eleven months before I saw her, she had had frequent occipital headaches and three severe attacks, each lasting several weeks. During these severe attacks she has sharp occipital headaches, nausea, vomiting, and fainting spells. These attacks last only a few minutes. The vomitus consists only of food, no blood or bile. Sitting up during these attacks makes her feel worse. At these times her back and neck feel rigid. However, the nasal dripping does not change either in quality or quantity. The last attack began ten days before I saw the patient.

Patient gives no history of the use of drugs or liquor. She is not troubled with constipation.

General examination revealed nothing other than that which would be expected from the above history. This patient was thoroughly examined. I shall call to your attention only the positive and the significant negative findings.

The nares was essentially negative with this exception: a clear fluid collected above the right middle turbinate and continually dripped from the right nares regardless of the patient's position, unless when she was lying on her back. The fluid when collected in a cloth did not discolor or stiffen it. An x-ray examination of the sinuses revealed no pathology. Likewise an x-ray examination revealed no fracture of the vault of the skull nor any signs of increased intra-cranial pressure. The white blood count was 9,300; differential, polys 74 per cent and lymph 26 per cent. The red blood count was 4,200,000. Hemoglobin 80 per cent. Coagulation three and one-fourth minutes. The blood chemistry was negative. Urine negative. Repeated Wassermanns negative.

Shortly after admission the patient developed some rigidity of the neck. This was the beginning of many different neurological pictures. These pictures assumed almost every form, including loss of consciousness, incontinence, exaggerated knee jerks, positive Kernigs, opisthotonos, frothing at the mouth, etc. Also the fields of vision for all colors varied from normal to being markedly contracted. Her temperature at times reached 106 degrees without apparent cause. Later some one suggested an unstable heat center as the causative factor.

The patient was under observation approximately ninety days. During this time several spinal taps were made. At no time was there any increase in pressure. Specimens of this fluid were referred to the laboratory, where spinal fluid Wassermann, colloidal gold and culture were negative. The cell count was ten cells per cubic millimeter, seven of which were small. Lymph —Globulin negative and reduced Fehling Solution.

Twice following a spinal tap 2 c.c. of pheno-sulphothalein was injected into the spinal canal. On both occasions the pheno-sulphothalein was recovered from the nasal discharge within one hour.

Following the injection of the pheno-sulphothalein the patient showed definite signs of meningeal irritation. This was manifested by rigidity of the neck, a slightly positive Kernig, nausea, vomiting, numbness of the lower extremities, and incontinence of urine.

The second time pheno-sulphothalein was injected into the spinal fluid the patient's lower extremities were completely anesthetized and totally paralyzed. This condition lasted 24 hours.

On one occasion we injected pheno-sulphothalein into the gluteal muscles to note whether or not any could be recovered in the nasal discharge. None was found in the nasal discharge within 12 hours.

Analysis of the nasal discharge was reported as follows:

Amount secreted in 24 hours as reckoned by collecting the nasal drippings for thirty minutes was 700 c.c. The fluid was a clear colorless liquid, faintly alkaline, and with a specific gravity of about 1,007. It contained a trace of protein and reduced Fehling Solution. The cell count was ten cells per cubic millimeter. It simulated cerebrospinal fluid in every way.

The patient was dismissed from the hospital with no noticeable change in the nasal dripping. However, her nervous and mental symptoms had disappeared to a large extent. I have been unable to see her since she left the hospital, but some twenty-four months after that time I indirectly heard that she was still living, suffering much the same as when I last saw her.

Summary—The condition was evidently cerebrospinal rhinorrhea, the fluid reaching the nose by way of the right cribriform area.

The cause is unknown, evidently non-traumatic, due neither to external violence nor to surgical endeavors.

Pheno-sulphothalein injected into the spinal canal is an irritant of the meninges and produces either partial or complete paralysis and anesthetizes the lower extremities.

This patient had never had any treatment of the right nares for this condition and yet, undoubtedly, she had a localized meningitis. This would not bear out St. Claire Thompson's (7) contention that the nasal cavities are sterile because his cases never developed meningitis.

Cushing (8) states that the large amount of spinal fluid which can be collected from these cases may represent the normal secretion which escapes in an abnormal manner rather than in the usual way; or that by decreasing the intra-cranial pressure, the intra-cranial venous pressure is increased, thereby increasing the secretion of the spinal fluid.

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DISCUSSION

DR. R. G. ASHLEY (Knoxville): I believe I voice the sentiment of every one present when I say that we are greatly indebted to Dr. Wilkerson for his splendid resume of the literature on cerebrospinal rhinorrhea, along with a report of an extremely interesting case.

A remarkable thing about this disease is that Dr. Frank Bosworth, the best authority in this country at the time, on nose and throat, as late as 1886, gave an account of a disease called nasal-hydrorrhea, cited five cases of his own and gave an account of reports on cases prior to that time.

All the symptoms we have reported here by Dr. Wilkerson in his paper were present though the exact nature of the disease as we know it now was not understood by him or others before him. The disease was attributed to several pathological factors; such as ablation of function of the trifacial nerve and consequent loss of inhibtory action upon secretions. A majority, however, believing it was purely a neurosis.

This disease, when not due to injury, is evidently due to deformity or defect of the skull about the cribriform plate, and just here I would like to call your attention to the fact that such deformities or defects may give rise to similar leakage of the cerebrospinal fluid elsewhere.

Just recently in the Archives of Otolaryngology, Dr. Emanuel Roth reports a case presumably the first on record, of spontaneous cerebrospinal otorrhea beginning in infancy or early childhood and continuing to the age of 53 when patient was last seen.

A short time ago a doctor friend of mine in this city had an infant brought to him, about one year old, who had what appeared to be a small cyst about the size of a cherry on the skin below and near the inner canthus. The doctor introduced a needle connected with a 20 c.c. glass syringe and began to withdraw the piston when a clear fluid began to fill the barrel of the syringe and it continued to flow as the piston was withdrawn until the barrel was pretty well filled, when he, the doctor, amazed and surprised at the amount of clear fluid coming from so small a tumor, promptly fainted. The child showed no untoward signs and came out from the anesthetic shortly.

Unfortunately the parents moved to another city soon afterwards. No further observation was possible.

Most likely this condition had some connection with a defect or deformity involving the cribriform and orbital plates.

It is to be hoped that with our present day means of diagnosis a closer study and a better understanding may be had of the exact etiology and treatment of this rare occurring and heretofore strange malady.

BIOLOGICAL GERMACIDES*

J. A. McINTOSH, M.D., F.A.C.P., Memphis

THE terms antiseptic, germacide, disinfectant and bacteriostatis have been coined by others and are applied to chemical and physical agents which inhibit growth of or destroy bacteria under specified conditions. These terms we believe have been applied only to liquids, solids and gases divorced from life and are not immediately dependent upon the continued presence of living activity in destroying germ life within the human body. It appears in current literature that several germ diseases and even certain neoplasms are successfully controlled by injecting into them or into the blood stream living forms of life such as metazoal, protozoal and ultra-microscopic life. The technique of administration and preparation of material at present are not in general use. However, it may be profitable at this early date to glance at the claims of benefit made by different workers.

Doctors Allen and Wright in a discussion of the value of antiseptics identify the concept of antiseptics with the preservation of foods and conclude that the present method of determining values are not satisfactory and suggest a complete survey of all antiseptics by the phenol coefficient method devised by Reddish, the agar cup plate method by Himebaugh and the massive infection method of their own. It is not reasonable to expect one standard test method to measure potency of all antiseptics whether chemical, physical or biologic. Test methods of antiseptics should be suited to specific diseases.

It is not our purpose to discuss all of the biologic products classifiable as antiseptics, germacides or bacteriostatics. But we shall limit our remarks to include three relatively new biological germacides that are dependent upon living processes for their favorable influence upon certain diseases.

Briefly, the first of these germacidal agents is plasmodium vivax, the cause of tertian malaria. The casual experience of ourselves and the favorable claims of many writers of its value for late syphilis of the central nervous system has convinced us of the benefit derived by injecting blood containing viable plasmodium vivax into the circulation of patients suffering from central nervous system syphilis. When blood smears containing tertial malaria parasites are found at the laboratory in St. Joseph's Hospital, Memphis, immediately we obtain consent of the patient and the patient's doctor (no failure to date) to obtain 5 to 10 c.c. of whole blood before or shortly after the first dose of quinine has been taken. Then we consult a short list of doctors whom we phone advising that a patient is at the hospital with tertian malaria. Generally their syphilitic patients are sent or brought to the laboratory within an hour or so, if this type of treatment is desired. We obtain and inject 5 c.c. of venous blood without changing the syringe or adding anticoagulants. We inquire if the recipient has allergic disease history, and if so, five minims of adrenalin are injected intradernally prior to injection of blood. We have followed this procedure twenty-five or thirty times without harm to recipient. Last summer, 1930, we obtained 5 c.c. of blood from the juglar vein from a child 7 months old in whom plasmodium vivax was found by blood smear, and injected the blood into a syphilitic adult, white male, 60 years old, and successfully transferred tertian malaria from the young individual to the old. The old man had paresis, which formerly had not been greatly influenced by other antiluetic treatments. He was unable to follow gainful occupations. Today he is at work earning his own support and is in excellent health and has negative serologic evidence of syphilis without receiving further antiluetic treatment. Many have reported similar successful treatment of chronic syphilitic central nervous system infections by using this biological germacide. Some believe the thermal reaction following malaria infection responsible for the favorable effects on the syphilitic disease because of benefit from inducing thermal responses to protein shock, diathermy and other hyperpyretic measures. But none of these agents or methods have supplanted malaria and suggests that other factors in transmitted malaria infection influences syphilis. There is clinical evidence of immunity stimulated by both malaria and syphilis. Plasmodia vivax may promote development of either the same mechanism as Treponema pallida or some essential part of mechanism which the human body uses in its fight against the Treponema pallida. The acute manifestations of syphilis as you well know are readily controlled with compounds of arsenic, bismuth, mercury and iodine, and tertian malaria at present is not advocated as a remedy in such early stages of syphilis infection. The limited supply of plasmodia vivax is a draw-back to its widespread use. We are fortunate in our location being in the zone of infection and often supply the infected blood. Dr. Johns of New Orleans has successfully shipped plasmodia containing blood held at low temperatures hundreds of miles to distant points. Shipments made with specimen at room temperatures do not give takes. Harm from transmitted tertian malaria is the exception rather than the rule. The reaction of the host gradually lessens and disappears without it being necessary to give quinine.

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*Read before the Railway Surgical Section, Tennessee State Medical Association, Knoxville, April 14, 1931.

"The Use of Maggots in the Treatment of Osteomyelitis", by Dr. Wm. S. Bear, of Baltimore, is a fascinating story about a viable or biological antiseptic. If you are interested read this testimony before a congressional committee of the 71st Congress investigating osteomyelitis, April 17th, 1930. Sterilized maggots have been placed by Dr. Baer into ulcerating sinuses of osteomyelitis and changed every five days until the work of sterilizing and removing sequestrae and necrotic tissue has been accomplished and healing takes place. This is often accomplished within seven weeks. His technique of raising and preparing maggots for use has opened another channel of service for the useful pathologist. His description of the method for obtaining sterilized maggots begins with the fly eggs and proceeds into the lateral stage. Again we are close to the source of supply of maggots all the year round in Memphis and if our colleagues demand it of us we shall try to meet the demand and supply them sterilized maggots. According to Dr. Baer good results are uniformly obtained by this method of treatment of chronic osteomyelitis regardless of whether the infecting organism is syaphylococcus aureus or streptococcus hemolyticus or even other varieties. He claims that maggot activity will restrain bacillus welchii if used early, 18 hours after infection. Experimentally infected guinea pigs survived if maggots were used and died if not used. Such a potent germacide recommends itself to use.

The last of the viable germacides is bacteriophage. Whether it is a viable germacide or a germ secretion is not settled. However, its intimate association with germs justifies our writing of it as a biological germacide. D'Herelle and Twort discovered independently of each other the principle of bacteriophagy in 1915 and since then many other bacteriologists have made therapeutic applications of this phenomenon. This means that certain granular colony types of germs were observed to dissolve in cultures. Human sewerage at times is rich in this dissolving principle for such germs as staphylococci, B. Coli, B. Typhosus and other germs, and if cultured with these receptive germs in test tubes soon becomes extremely powerful in dissolving them. The dissolving activity is easily increased by continued culturing and adding more germs. We have cultured bacteriophage and staphylococcus together several months until one drop of the "phage" would dissolve one cubic centimeter of thick suspension of staphylococcus aureus in about five hands. Here perhaps were enough germs to produce boils in a thousand or so people if injected beneath the skin. Since the attraction of the bacteriophage to the specific germ is expressed by dissolving them, injecting it into the body or infected site is now a well established practice with ourselves and others. Eli Lilly Co., Indianapolis, have on the market tubes of lysed staphylococcus protein in water soluble jelly which contains also the active lysing principle. The tubes that we have seen are free of contaminants. Contaminants have spoiled many batches of "phage" for us and the problem of keeping it sterile and usable seemingly has been solved. The jelly is soluble in broth. It may be dissolved and injected into a boil or carbuncle wherever located. We have injected it into the blood stream ourselves. In a former paper before this association in 1929 we detailed the therapeutic application of bacteriophage in boils, typhoid fever and septicemia. We recommend its use in the treatment of diseases that we have mentioned.

Conclusion—Many workers make favorable claims of potency for plasmodia vivax, fly maggots and specific bacteriophage in the treatment of central nervous system syphilis, chronic osteomyelitis, furunculosis, typhoid fever and certain forms of septicemia. Since widespread use of these biological germacides is for the future we shall continue to watch for occasions to use them and to make comparative observations of methods in current use whenever possible.

See Your

County Secretary

TODAY

Pay Your 1931 Dues

TREATMENT OF WOUNDS*

J. A. MITCHELL, M.D., Tullahoma

THIS subject, given me, with a request to limit the paper to ten minutes, covers every break or division of continuity of the soft parts of the body, caused by mechanical violence.

There is only one subject broader, the treatment of disease. I shall discuss the treatment of wounds that are seen in a routine practice, in a small railroad, wood manufacturing town.

I have tabulated two hundred cases, just as they came, that you might see how the wounds are distributed over the body.

Prior to making this tabulation, I was under the impression that the upper extremities received the majority of the wounds, the head second, and the lower extremities third. Also, I was under the impression that the left eye received about twenty-five per cent more injuries than the right eye.

The injuries were distributed as follows:

To the upper extremities (arms, hands, fingers), 69, or 34.5 per cent.

To the lower extremities (feet and legs), 35, or 17.5 per cent.

To the body (back, chest, shoulders, abdomen), 24, or 12 per cent.

To the head (including face and eyes), 72, or 36 per cent.

The injuries to the upper extremities were as follows: Right arm, 8; left arm, 4; right hand, 10; left hand, 9; fingers of right hand, 20; fingers of left hand, 18.

The injuries to the fingers were as follows: Those of the right hand: First, 7; second, 5; third, none; fourth, 2; thumb, 6. Those of the left hand: First, 4; second, 4; third, 3; fourth, 1; thumb, 6.

The injuries to the body were: Back, 8; chest, 8; abdomen, 3; shoulders, 5.

Injuries to the lower extremities were: Right leg, 11; left leg, 12; right foot, 5; left foot, 7.

Injuries to the head, face and eyes were: Head, 5; face, 5; eyes, 62.

The injuries to the eyes were equally distributed, thirty-one in each. The injuries to the eyes were due mostly to cinders, shavings, pieces of steel, etc.

The majority of these wounds were of the minor class and could be treated without a general anaesthetic. Where an anaesthetic was used it was mostly local. The local anaesthetic used was Butyn 1 per cent where injected, and 2 per cent for the eyes, open and punctured wounds.

Wounds are divided into two classes. Those where the parts are disorganized, without a break in the skin; those where the skin is broken. Those where the skin is broken are mostly mangled, clean cut, punctured, gun shot.

The treatment of wounds is in three stages. The treatment rendered before reaching the surgeon, the first treatment rendered by the surgeon and the subsequent treatments. The first treatment is usually rendered by a fellow-employee, friend or member of the family. Often the injured person renders his own first aid in treatment and in making the dressing.

In the case of contused wounds they usually make applications of hot or cold water. Sometimes vinegar and brown paper is applied. Some prefer dirt dobber's nest and vinegar. Where the skin is broken and a hemorrhage takes place, they make an effort to stop the hemorrhage, if it be in an extremity, by applying an improvised tourniquet of a handkerchief, shirt sleeve, rope, string, etc. Some still apply soot and cobweb for hemorrhage. Some will stick a finger, hand or foot into a vessel of kerosene if it is to be had. They, who do this, say it gives them more relief than anything that they can do. Some still use turpentine and sugar. Most of the wounds have been wrapped up when they reach us.

Wounds on the head which bleed are the hardest for the layman to control. This is due to the fact that the hair conceals the wound, and the blood shows up away from the wound.

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*Read before the Railway Surgical Section, Tennessee State Medical Association, Knoxville, April 14, 1931.

In applying a tourniquet they usually get it about tight enough to stop the return flow of blood, but not tight enough to constrict the artery. I saw one fellow who had a string tied around his head where the hat-band fits, trying to control a hemorrhage from a wound on the head.

In most of the manufacturing plants and a great many of the homes, and among the railroad employees there are first-aid kits. The people are becoming more adept in taking care of wounds. The people are learning the use of antiseptics and are using them more freely. The two most popular antiseptics among the laity are iodine and mercurochrome.

We often see a case where first-aid has been rendered by one who has made a study of first-aid, and the treatment and dressing is near perfect. Occasionally we see an iodine burn. These occur in those who are sensitive to iodine, or the too free use of the iodine.

The second treatment begins when the patient reaches us. It consists in checking hemorrhage, cleansing the wound, removing foreign bodies, removing dead tissue, rendering the wound aseptic, restoring the parts to their natural position as near as possible, applying a dressing, putting the parts at rest by the use of splints, slings, or position.

In most of the wounds hemorrhage can be checked by pressure with a pad of gauze over the wound. If the laity could be taught to make pressure using a pad of gauze or clean linen directly over the wound and elevate the parts, be it a hand or foot, they would be able to control the hemorrhage in the majority of cases. Those cases usually brought in with a tourniquet are still bleeding and all that is necessary is to remove the tourniquet and elevate the part. It is rarely necessary to tie an artery. Where sutures are used in bringing the parts together they will control the hemorrhage. Then with pressure and elevation all oozing stops.

A hemorrhage from a stab wound under the mastoid is one of the hardest to control. They are usually deep. By packing the wound with gauze and the application of a suture through the skin, bringing the suture up over the gauze so as to make pressure controls it.

Wounds in bleeders give us the most trouble; the hardest of all to control. They bleed from a contusion often producing large tumors. Some cavities left from a pulled tooth bleed very freely. They usually come in with the statement that they cannot find their dentist. Packing these cavities with a pad of gauze saturated with adrenalin held in place by a roll of gauze held between the upper and lower teeth controls it. Potassium permanganate will stop hemorrhage often times when other syptics fail. It seems to work nicely in bleeders. In bleeders we are apt to be misled by the clot that forms. The bleeding continues under the clot. By cleaning out the clot and applying the permanganate of potassium the hemorrhage is controlled. In cleansing a fresh wound the less plain water used the better. Better to use gasoline or kerosene or some one of the antiseptics.

A thorough search is made for foreign bodies and removed if found. All severed tendons should be sutured back together with catgut, using two sutures in the large tendons.

If the wound is not large enough to reach the cut ends of the tendons then the wound must be enlarged. The time to repair tendons is when first done.

The antiseptic usually used is iodine, mercurochrome, alcohol, chlorazene. Where in doubt iodine is the safer, especially in wounds that have dirt ground into them. Follow with alcohol to remove the excess of iodine on the skin. Mercurochrome makes the laity think you are doing something and it does not hurt. It is used a great deal. Filling the wounds full of an antiseptic before closing gives good results.

In closing wounds catgut and clips are used. Adhesive plaster will hold edges of a wound together if the wound is not too deep. In applying the dressing if the gauze which comes in contact with the wound is smeared with vaseline makes the dressing easily removed and adds to the comfort of the patient. Where clips are used, small rolls of gauze laid along the side of the wound takes the pressure of the dressing off the clips. Where splints can be used it helps in the repair and helps to lessen the pain of the wound. Splints should be used in all cases where tendons have been severed.

Where there is much oozing or bleeding a redressing of the wound should be made in twelve hours or less time if indicated by the dressing. Dressings left on until they become hard are difficult to remove.

In the treatment of punctured wounds, opening up the wound depends on where it is and the possibility of foreign matter being carried in. Most of the nail punctures are in the planter surface of the foot back of the toes. Injecting an anaesthetic into the puncture renders the treatment painless, unless the wound opening is to be enlarged. When the wound is to be enlarged then the anaesthetic is injected subcutaneously, entering the needle through the punctured opening. For filling the puncture with the anaesthetic a medicine dropper is used. Iodine injected into the punctured wound after the use of the anaesthetic is painless. Without an anaesthetic it is very painful. The wound should be filled with iodine. Where so treated very little trouble follows. A drain made of cotton twisted into the shape of a cord is inserted into the puncture.

Many cases of mangled fingers can be saved by the application of an antiseptic and a proper dressing. It may not look like good surgery not to amputate; it takes longer to get them well. The results obtained justify the effort. The best surgeon is the one who knows when not to operate.

WHAT SHALL WE DO ABOUT REFRACTION?*

E. WHITE PATTON, M.D., Chattanooga

I AM of the opinion that a treatise on how to refract by one more capable than I would be of greater benefit to you, but it is from a different viewpoint that I wish to speak to you on this subject.

In the final analysis there can be only two reasons for our profession, to serve others and to serve ourselves, and I sincerely believe that in the heart of the true physician, service to others comes before self. Now if this be true and I believe you will agree that it is, what shall we do about refraction?

Is it of sufficient importance that we continue or shall we say that it is tedious drudgery and should be turned over to the optometrist.

I am quite sure in my mind that there is no greater field for real service in our specialty than a careful eye examination. To a great many of us the examination and treatment of eye conditions constitute a very large per cent of our practice.

If by refraction we mean merely to prescribe lens that will aid vision, relieve strain, etc., then I see no reason for our doing refractions. But on the other hand if a request for a refraction on the part of the patient, is made an opportunity on our part for a careful eye examination, as well as that of other parts of the body, then we should do refractions and refract properly. It should not be necessary for me to define correct refraction; but knowing that a few men of our specialty say it is not necessary to resort to the use of any kind of drugs for refraction, I wish to state most emphatically that it is mere guess work to refract without the aid of a cycloplegic. Of course, in patients beyond certain ages the guess is so accurate that most of us resort to it, and there can be no good objection to this rule, but I feel that we should use a midriatic in most of these cases after we have made our "guess" as to the correction needed, for the better study of the lens, media and fundus.

We all see patients who have been made "eye conscious" by the clever optical trade journals and merely want a pair of glasses, but how many of those patients really need glasses? It is our duty to find this out, and I maintain that anyone not thoroughly trained in medicine accepts a tremendous risk, fraught with many hazards to the patient, when he attempts to render an opinion. To us, trained as we are to be honest with our patients, giving him the benefit of all the accumulated medical knowledge of the past, it is inconceivable that any intelligent person would deign to offer an opinion on something of which he had no knowledge, but here is where we have let our beautiful ideals of service to others lead us astray.

We lose sight of the fact that there is a commercial angle to this idea of refraction. Why should one spend long years trying to learn something of anatomy, physiology and pathology when all one needs is a trial case plus a few other glistening accoutrements and a big sign on the window announcing the fact that here is an "Eye Sight Specialist", a doctor of optometry, who can carefully and correctly fit you with glasses without the use of unpleasant and dangerous "drops"?

Do not understand that I would have you look on this subject through commercial eyes, but with that finer vision which looks to the patient's real welfare and which has always characterized the medical profession.

It is this fine vision that should prompt us to teach the laity of the danger of haphazard examinations by pseudo doctors and super salesmen of spectacles.

I have no quarrel with the optometrists or refracting opticians so long as they confine their activities to their field of work. I would go further and say that I think they have a decided field of usefulness if they will be honest with their patrons, but when they attempt to render service on subjects of which they have absolutely no knowledge, it is time to call their hand.

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*Read before the Eye, Ear, Nose and Throat Section, Tennessee State Medical Association, Knoxville, April 14, 15, 1931.

A great many refracting opticians are sincere in their work, try to be honest with their patrons, and yet they may make many mistakes through lack of knowledge. On the other hand there are those who profess to see no reason why a physician who has spent years in the study of ophthalmology should be allowed to prescribe lens.

At the meeting of the American Medical Association in 1925, the late Doctor J. M. Patton, of Omaha, read a paper on the subject, "Oculists or Optometrists—Which?". If you have forgotten this address I would suggest that you refer to your copy of the transactions of that year and read it.

Doctor Patton made quite a careful inquiry into what was being done by the various state boards of optometry, and in this investigation it was found that the trend of the optometric mind, as evidenced by the various state association officials, was that the oculists should not refract, at least not until he has passed the examination by the state board of optometry.

Quoting from this address, here is what the secretary of the Wisconsin Association of Optometry said: "The time has come when we feel that the fitting of glasses belongs exclusively to the optometrists.

"I can see the look of 'Holy Horror' with which the oculist would view this remark. Mind you, I don't say that they are not qualified, at least some of them are anyway, but the fact remains that they do not qualify by passing any examination or coming before any board. We claim that the optometrists should do the glass fitting. I also claim that when there are any symptoms of any diseased condition whatever, the case should be turned over to the medical men at once. We do not want to throw bricks at anyone, but fitting glasses belongs exclusively to the optometrists and we propose to get what belongs to us."

Quoting Doctor Patton: "Admitting that this gentleman is perfectly honest in his willingness to turn over any diseased condition whatsoever to the medical men, unless he is much more thoroughly skilled in diagnosing them than the majority of optometrists with which we are acquainted, he will not be able to recognize the symptoms of many of our ocular diseases, and unless he is much more generous than the average he would hesitate a long while before doing so on general principles."

How many of you have seen simple and even serious eye conditions go unrecognized while some optometrist was trying out two or three pairs of glasses. Sometime back a patient came to me with "Pink Eye", who the day before, while the disease was yet early, had been fitted with a plus 25 O. U., had a drop of some kind of medicine put in the eyes and assured by one of our local optometrists that he would be quite all right.

The quotation of the Wisconsin Optometric Secretary is characteristic of that expressed by optometric leaders in many other states. The National Association of optometry has recently been putting out printed propaganda against the use of drops. In these pamphlets they have taken segregated sentences from books written by men of national and international reputation to prove their points. Of course, all these quotations are very misleading and intended to be so.

Quoting from Doctor Patton: "We must agree with the report of the British Council of Ophthalmologists that, 'No course of training short of that required for full medical qualifications can produce the skill and judgment necessary to recognize a case in which the eye through disease or otherwise could not be treated by glasses. Every medical man dealing with ophthalmatic cases must be equipped with the knowledge necessary for ordinary qualifications in medicine, and in addition the special knowledge of the most delicate and complex sense organ in the body."

Volumes could be written on this subject; quotations could be given from men of outstanding merit from every corner of the globe, but it would serve no purpose here for I am sure you are all thoroughly familiar with this subject; it has probably been brought home to each of you in a painful way. Therefore, the question I should like to present is, "What Shall We Do About Refraction?" I wish to offer the following suggestion for your approval, with the hope that some solution may be reached and some good accomplished.

First, let us put our own house in order. One doctor said to me that he knew little or nothing about refraction, detested doing it, but felt that it was a "feeder" to his practice and must be carried on in some way.

The physician who looks upon refraction in this light is worse than the quack non-medical eye fixer, for he at least has been trained in medicine and knows the danger from slipshod methods of refraction. So if our heart is not in this particular part of our work, for the patient's sake, let's quit. I would not criticize the man who does not want to refract, but there is certainly no justification for refracting at all unless it is done thoroughly.

That settled, then let's get out of the glass selling business so far as is possible. Of course, there are men so located that it is impossible for them to do other than make their own fittings, order and deliver the glasses, but there is no excuse for this where there are sufficient men to support a dispensing optician. There are many benefits to be derived from this method. First our patients would be served by one who must retain the good will of both patient and doctor. Second, the dispenser can make a legitimate profit and yet furnish to our patrons this service at a considerable monetary savings. Third, and most important of all, by this method a means of educational advertising can be carried on which will be of untold benefit to the laity.

None of us would favor personal advertising and few with whom I have discussed the subject are inclined to give interviews to the press or to allow the use of their signature in such connection; but in my opinion, this is where we have made our greatest mistake and unquestionably shirked our duty.

Medicine has made such great strides in the past twenty-five years that it keeps the doctor everlastingly digging to keep abreast, and if that be true what can we expect the laity to know, when from every printed page comes forth the pseudo knowledge from so many different sources. What else is to be expected but that our patients believe some of this propaganda when they see it in print from day to day, and never once do they see it contradicted by the profession.

It is great to talk about our high standard of ethics, etc., but do you not see that it is our duty to acquaint the public of the knowledge they should have. What else can we expect of the poor patient but to believe, when they are told day after day that to use "drops" in the eyes is an obsolete method, that the famous Dr. "Crook M. Right", eye sight specialist, can detect the minutest error of refraction, muscle imbalance, eye strain, all without the use of troublesome and dangerous drops, and enclose much printed matter quoting outstanding doctors to substantiate their claims.

Are we rendering service to our patrons to allow this to go on from year to year without making any efforts to tell them the truth? Suppose Mrs. Jones, age 50, and her son, Johnnie, age 10, came to your office tomorrow for any eye examination. Mrs. Jones needs only a pair of glasses for presbyopia, Johnnie has a bad squint, but mother says she has been told not to allow anyone to put drops in Johnnie's eyes. What will you do?

Now isn't it just as much an obligation that you tell all the mother Jones why it is necessary to put "drops" in Johnnie's eyes, and why it is probably unnecessary to do the same for her as it is to tell that patient who comes to your office.

I believe most sincerely, gentlemen, that it is our duty to get this information to them, an obligation we owe the public by virtue of our training and knowledge of medicine.

If you grant that these statements are correct, then the only way I can see for this plan of education is through the press, and there are only two ways that seem advisable to me.

First, this section of the Tennessee State Medical Association could inaugurate a campaign of publicity through its officers, or a committee appointed for such purposes, or second, and this I believe to be the better way, is correct advertising by a dispensing optician.

DISCUSSION

DR. ROBT. S. LEACH: A paper on refraction, treated from any angle, should interest each one of us who is doing eye, ear, nose and throat work, not only because it constitutes such a large proportion of our work, but also because there is always something to learn about it, regardless of how many refractions we have done.

Refraction properly done is a nerve-racking, time-consuming, painstaking job, but the results obtained from accurate refraction should amply compensate us for the time and effort spent. To relieve a patient of headache, and all of the symptoms attendant upon eye strain, to make him happier and more useful in his work, should give us just as much a sense of satisfaction of work well done as, for instance, the more spectacular successful operation for cataract. It is reasonable to suppose that a man who has the primary interest of his patient at heart is more able to give this relief than one who "drums up" trade, and whose object is to increase his glass sale.

None of us, I believe, have a quarrel with the conscientious optician who realizes the limitations of his field, but when he tries to practice medicine for which he is not trained, it is another story. When the optician attempts to cure strabismus in a little child by means of a "muscle exercise", and to relieve the failing vision of simple glaucoma by the treatment of lights and pair after pair of glasses, he becomes indeed a menace to the public.

Dr. Patton spoke wisely when he said it behooves us to get our own house in order. That an oculist should be interested in his work goes without saying, but it is surprising and regrettable how many general physicians continue, not only to send their patients, but go themselves to tradesmen for their glasses.

The problem of educating the public to the need of thorough eye examinations by physicians capable of recognizing beginning pathology and its relation to the body as a whole, is not an easy one, but Dr. Patton has offered one suggestion, and I think it should receive our careful consideration.

EYE INJURIES*

W. L. Howard, M.D., Memphis

THE prime reason for selecting this subject is that it may serve as a basis for a dispassionate consideration. It is too important to give only a passing thought and it is equally important that the general practitioner be informed.

In all fields of medicine and surgery success depends on experience and diagnosis and in no branch of medical activity is it more noteworthy than in the treatment of eye injuries. I am still further actuated by the desire of aiding in promoting the educational work of the surgeon, internist and general practitioner who has to deal with eye injuries, especially in railroad work.

From an ophthalmologic standpoint the eye is the only means whereby the luminous rays can enter the human anatomy and the only window that the inhabitants within can view nature in her natural beauty. The factors in eye injuries are "cause" and "prevention", especially does this apply to industrial corporations. I am a firm believer in applicants being examined for ocular deficiencies before employment is given and at intervals as might be required by the railroad or corporation that gives him employment.

There is a great deal that could be said about employees of shops where proper illumination is of paramount importance. Every employee in a shop can perform safe work under suitable illumination if his refraction is up to standard. Of course, we all agree that daylight is best, but under present day advancement in shop work it is almost impossible. Another thing for prevention of eye injuries, the railroads I represent have adopted suitable goggles for most of the employees, and I understand the other railroads have adopted the same rule. I have insisted that the employing officer not allow any employee attempt any so-called emergency treatment at the shop, such as removing foreign bodies, etc. I have had several disastrous consequences from their removing them. They have no conception of asepsis, nor the use of dirty instruments or hands, etc. There is a lot that could be said in the way of preventing injuries, namely, the tools should be kept in perfect condition, hammers inspected, that they may have smooth edges, emery wheels protected to protect those who will not wear goggles.

Molten metal vats are some of the most dangerous things that have to be handled. I remember a workman who came into my office with both eyes filled with this molten babbitt. He was wearing glasses, however, and when I began to make my examination the left eye seemed to be filled with it. I began removing this and he said, "Doctor, don't bother with that eye, it is an artificial one, but save my good eye." I mention this just to show that had it not been his bad eye he would have lost it at this accident.

Another thing I want to mention is the workman who is exposed to excessive light, such as factory blast furnaces or electric welding. He should not work long at a time and, of course, all railroad employees are instructed to use the proper screens.

In following this subject it is the untilled soil that I am going to try to cultivate and, in a measure, convey to you first, the importance of early attention to these cases that come under your care and especially to those of you who do not have the services of hospitals or competent oculists. Seventy-five per cent of railroad ocular cases that come under my care are due to some foreign body in the eye, varying from a superficial cinder on the cornea to the rupture of all the tunics.

Before attempting any surgical procedures always examine for foreign bodies as the successful handling of these cases will depend largely on the presence or absence of same, whether it be steel, wood, brass, glass or any other material that might enter the eye. To further impress you I realize the importance of careful localization by means of x-ray, if you have reason to believe the foreign body has penetrated the eye. When I say x-ray I mean have a competent roentgenologist who is capable and competent to determine the meaning of his shadow findings, to determine whether this missile is intra-ocular, intra-orbital, or if it has passed beyond into the brain. As stated above, I think the first-aid treatment the most valuable. The treatment, in all cases, should be conducted on a surgical principle, after being assured that you have removed the foreign body. A lot of these cases can be treated scientifically without suture being applied, except for the suture in making a conjunctival flap to cover up the wound.

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*Read before the Railway Surgical Section, Tennessee State Medical Association, Knoxville, April 14, 1931.

The technique is very simple, but requires skill and dexterity. I have, during the past few years, done several of these operations that have saved the eye and in most cases given good vision.

Mr. H., railroad employee, came to my office on January 21st. He was cutting a piece of brass from the main rod when a piece hit him in the left eye. I saw him in about two hours. He had a horizontal wound of the left eye extending from near the inner canthus and into the cornea, about four millimeters. The wound included all the coats of the globe and there was considerable iris prolapse. After performing the iridectomy the flap, in this case, was brought up from below so that the entire extent of the wound was covered. He was put to bed and atropine instilled in the eye every four hours, the eye was inspected every day. On the 27th of January, six days after the operation, the flap slipped back into place, the wound was closed, the pupil dilated and the pillars of the coloboma were fair. Some opacity of the anterior lens of the capsules. Patient continued to improve. February 17th the eye was clear, vision 20/50 with a minus 50 cylinder axis 60 gave 20/50. March 1st, vision 20/50 still with a plus 2.00 combined with a minus 2.50 cylinder axis 75 gave him 20/30. The patient now has 20/25 vision in this eye and is working.

Mr. G. H. after an accident in July had a horizontal cut on the right cornea, iris wounded, but not prolapsed, lacerated wound on the lower lid and right cheek. Cornea was covered with conjunctival flap. Atropine instilled, wound dressed and patient put to bed. On the sixth day flap slipped off corneal wound, pupil round and dressing removed. August 14th, he was continuing to improve, on 15th he had a severe pain in the right eye during the night, vision suddenly worse, cornea looked clear, lens little more cloudy, tension slightly increased. Aspirin and hot applications ordered to relieve pain. On September 3rd, the cornea was much clearer, vision at that time was 4/200, some lens opacity, mostly in posterior capsule, vision in this case 20/100 without lenses.

I only mention these two cases to impress upon you the importance of the conjunctival flap operation in corneal and conjunctival wounds and to show nature's commonsense way of preventing infection. It is so easily done and the conjunctiva will, in every case, slip from the cornea on about the sixth day.

There are, of course, a lot of cases that you can treat with the open method and not try to cover up the cornea laceration, however, that is a question to judge in your mind.

I purposely avoided mentioning the injuries that are due to lime burns and acid burns and kindred solutions. The main thing in these cases is to try to prevent, by mild alkaline solutions, symblepharon.

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H. H. SHOULDERS, M.D., Editor and Secretary

NOVEMBER, 1931

EDITORIAL

Dr. John B. Deaver

Though the immediate scene of the activities of this great man was in a city far removed from Tennessee, there has been a widespread sense of sorrow caused by his death on September 25, 1931.

Many members of the profession have felt they owed him something. They have read his books, they have read his articles, they have sat in his clinic and been informed and inspired. It is natural that we should feel as we do—sad because a friend and benefactor has passed away.

He was asked to contribute to our Centennial program in 1930. He accepted the invitation promptly. He made a contribution which those who heard will long remember.

Local societies in the state have expressed a desire to draw resolutions on his death. This is unusual. It is evidence of the esteem in which he was held by the rank and file of the profession everywhere. Such men as he will not soon come this way again.

Pasteur Treatments

A large number of people, principally children, are now taking Pasteur treatments, according to newspaper clippings. Most of the treatments are administered by Public Health Departments.

The records of the City Health Department of Nashville show that there were 240 Pasteur treatments given in 1928; 269 in 1929; 300 in 1930; 413 up to November 1, 1931, making a total of 1,222. In this same period 2,080 persons were bitten by rabid dogs or otherwise exposed to the disease. In this same period 966 dogs were quarantined and released. It is not known how many persons among those classed as exposed took the Pasteur treatments from their physician.

It is reasonable to assume that other departments throughout the state carry on activities similar to those above outlined.

Each of the persons treated had fourteen injections. A majority of those treated were children.

The purpose of Pasteur treatment is to prevent the development of rabies in persons who have been bitten by a rabid animal, usually a dog, or otherwise exposed to the disease.

Of course, the prevention of exposure to the disease by the bite of the dog, or otherwise, would be simple. The department would be relieved of all these treatments. The people would be relieved of all these treatments. In fact such a step is a fundamental health measure.

It has been demonstrated over and over again that the proper control of the dog population eliminates rabies completely. If the stray dog is destroyed and the dog in the home is properly cared for the danger of rabies in the human disappears. Certainly these departments know these facts. Does their failure to use them mean that they lack the courage to do it, or do they prefer to fill their reports with a large number of hypodermic injections?

All the activities pertaining to the preparation and administration of the Pasteur treatment by all these departments would be eliminated by measures directed at the dog.

The politicians who are opposed to any sort of dog regulation should be compelled to stand by and watch innocent children take all these injections, or what would be better, they should take the treatment. Maybe they would change their minds. We simply cannot believe the general public would oppose the proper regulations if they knew the facts. Would it not be better if these health departments made a concerted effort to inform the public and enforce logical and effective measures?

THE LIAISON COMMITTEE

In 1928 the House of Delegates of the Tennessee State Medical Association, by resolution, created a committee to be known as the Liaison Committee. The duties of this committee were not clearly defined in the resolution. Each year such a committee was formed and did function.

In April, 1931, the House of Delegates adopted an amendment to the by-laws which created this committee as a standing committee of the Association and prescribed its duties and powers. The committee thus provided for has been appointed by the President, Dr. T. R. Ray. The personnel of the committee is as follows:

W. C. Dixon, Chairman, Nashville (five years).

W. P. Wood, Knoxville (four years).

J. F. Gallagher, Nashville (three years).

R. L. Sanders, Memphis (two years).

B. S. Rhea, Lebanon (two years).

The following paragraph pertaining to the duties of the committee is copied directly from the resolution:

"It shall be the duty of this committee to confer with the officials of the Department of Health of the State in matters of policy affecting the profession of the state; and it shall be the further duty of this committee to confer with any member or members of this Association in matters concerning the activities of the Department of Health of the State. Provided, that all matters over which this committee shall have jurisdiction shall be presented to the Committee, through its Chairman, in writing."

Members or component societies who feel that the State Health Department is engaging in activities detrimental to the practice of medicine should make written reports of such activities to the chairman of the committee. The chairman can then present the specific complaints to the committee as provided in the resolution.

MEMBERSHIP DUES

As the beginning of a new year approaches it is necessary again to call attention to the fact that the fiscal year of the State Association, the membership year of the Association and the subscription year of the Journal all correspond to the calendar year.

Membership dues in the State Society includes the price of the Journal. In fact, two dollars of the four dollar dues are allocated to the Journal. Membership dues are, therefore, payable on or before January 1st, of each year.

The membership in the Association at the present time, November 5th, is 1,554. At the end of last year the membership was 1,644. This is a falling off of 90 members which is a relatively small reduction in numbers.

Owing to the depression many organizations have experienced a marked reduction in membership. We feel that the Association is to be congratulated upon this excellent showing. At the same time we must urge the prompt payment of dues for the year 1932 so that memberships will not lapse and subscriptions to the Journal will not lapse.

1931 STANDING COMMITTEES

Committee on Scientific Work

H. H. Shoulders, Chairman, Nashville.
R. H. Monger, Knoxville.
A. F. Cooper, Memphis.
S. F. McIntosh, Chattanooga.

Committee on Public Policy and Legislation

H. M. Tigert, Chairman, Nashville.
L. T. Stem, Chattanooga.
George R. McSwain, Paris.
T. R. Ray, ex officio, Shelbyville.
H. H. Shoulders, ex officio, Nashville.

Committee on Public Health

Tom Barry, Chairman, Knoxville.
S. S. Moody, Shelbyville.
A. G. Nichol, Nashville.
L. M. Graves, Memphis.
John D. Brewer, Dyersburg.

Committee on Cancer

Battle Malone, Chairman, Memphis.
J. A. McCulloch, Maryville.
H. S. Shoulders, Nashville.
J. B. Haskins, Chattanooga.
Howard King, Nashville.
J. A. Crisler, Sr., Memphis.

Committee on Medical Education

J. B. McElroy, Chairman, Memphis.
W. S. Leathers, Nashville.
Jack Witherspoon, Nashville.
H. L. Fancher, Chattanooga.
W. K. Vance, Jr., Bristol.

Liaison Committee

W. C. Dixon, Chairman, Nashville, (five years).
W. P. Wood, Knoxville (four years).
J. F. Gallagher, Nashville (three years).
R. L. Sanders, Memphis (two years).
B. S. Rhea, Lebanon (one year).

State Tuberculosis Hospital Commission

J. O. Manier, Chairman, Nashville.
E. R. Zemp, Knoxville.
O. N. Bryan, Nashville.

Committee on Hospitals

R. A. Barr, Chairman, Nashville.
George Williamson, Columbia.
E. H. Baird, Dyersburg.
J. C. Wilson, Rockwood.
E. Dunbar Newell, Chattanooga.

Advisory Committee to the Woman's Auxiliary

C. M. Hamilton, Chairman, Nashville.
R. N. Herbert, Nashville.
L. T. Stem, Chattanooga.
Shields Abernathy, Memphis.
D. H. Anthony, Memphis.

MARRIAGES

Miss Dorris Williamson, of Jacksonville, Florida, and Dr. Rolland F. Regester, of Rockwood, were married at Jacksonville on October 16, 1931.

Miss Perry Eline Ricks and Dr. Jefferson Abner Hanna, both of Memphis, were married in New Orleans on October 12th.

DEATHS

Dr. John H. Reeves, Springfield; graduated in 1890; died October 5th, aged 70.

Dr. T. A. McCollum, Limestone; died on October 8th, aged 65.

Dr. J. P. Taylor, Wartrace; Vanderbilt School of Medicine, 1896; aged 63; died on November 1, as the result of an automobile accident.

RESOLUTIONS

JOHN BLAIR DEAVER*

There are times in the life of each of us, when some personal friend dies, that we feel that a calamity has occurred from which we can never fully recover.

Ordinarily, however, the death of any of us causes distress and a sense of loss to but few.

When, however, as on September 25, 1931, death removes such a personality as John Blair Deaver, it is not a few individuals who are affected, but all of mankind, not a small community, but all the world.

By those who knew Dr. Deaver in person, he will always be vividly remembered.

He had the ability to impress his personality so that it is impossible to forget him.

To those who did not have the good fortune to know him, save through his contributions to the literature of medicine, he was, none the less a personality, for his gift of expression was such that one always was impressed with some unforgettable manner in which he conveyed an idea or an opinion.

He lived a long and active life, and his professional career was productive in every way.

Until a few months before his death he was still actively working and thinking.

His thoughts were original and progressive. He was able to express these thoughts in well chosen words when spoken extemporaneously in the operating theater or in more formal communications.

He had an original mind full of practical ideas coupled with the technical skill to carry out these ideas.

He had one quality which, above all, made him outstanding, his dramatic personality.

He would have been a great actor.

He would have been a great lawyer.

He would have been a great preacher.

He was a great surgeon.

To sum it all in one word, John Blair

Deaver was a great man. In his death the medical profession lost a leader and a teacher whose place may be taken, but can never be adequately filled.

W. G. KENNON, M.D., *Chairman;*
W. D. HAGGARD, M.D.,
J. O. MANIER, M.D.

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*Resolutions passed by the Nashville Academy of Medicine and the Davidson County Medical Society.

DR. JOHN B. DEAVER*

Mr. President and Gentlemen of the Society:

I have been requested to make some remarks, and present resolutions for your consideration and approval on this occasion. I feel very acutely my inability to do the subject full justice, but I count it a great privilege to have the opportunity.

Dr. John B. Deaver, of Philadelphia, died at his home in Wyncote, on Friday, September 25, 1931. Age 76. He had led an unusually active life, until less than a year ago, when he was stricken with a very severe and stubborn attack of secondary anemia, which compelled him to stop work entirely about six months ago, death resulting on September 25th as stated.

It is seldom that one man can accomplish so much in a life time. I don't think I exaggerate when I say, that measured from all angles, Dr. Deaver was at least one of the greatest surgeons and benefactors of mankind that the world has produced.

It has always seemed peculiar to me how the world at large estimates real greatness. Mention the name of Napoleon, and there are few people of any age, or country, who are not familiar with his life, and military exploits, and yet he was not a benefactor of the human race. On the other hand, mention the name of Pasteur, the father of modern medical science, and therefore one of the outstanding benefactors of the human race, and it is safe to presume that not very many, outside of the medical profession, would know who you were talking about. Mention the name of Stonewall Jackson, Phil Sheridan or Robert E. Lee, and practically everybody would know of the men and their work, and regard them as heroes. On the other hand mention the name of Walter Reed, or John B. Deaver, real benefactors of suffering humanity, and outside of the medical profession, very few would know of the men, or their work.

Dr. Deaver was born in Lancaster County, Pa., July 25, 1855. He was educated in the Public Schools of his section, and afterwards at the University of Pennsylvania, where he graduated in medicine in the class of 1878. Very early in his professional career he was appointed Assistant Demonstrator of Anatomy at the University. He served in this capacity, and as Demonstrator of Anatomy, and Assistant Professor of Applied Anatomy until he resigned in 1899.

Early in his surgical career he was appointed on the surgical staff of the German Hospital, which later became the Lankenau Hospital.

In 1886 he became Surgeon-in-Chief, which position he held until his death. It was at this institution that he performed most of his many thousand operations. He was visiting and consulting surgeon of the Philadelphia and many other hospitals of the city.

In 1914, Dr. Deaver returned to the University as Professor of the practice of surgery, and in 1918 he was appointed John Rhea Barton Professor of Surgery, in which capacity he served until 1923, two years past the age of retirement. When he resigned at the age of 68, he was made Emeritus Professor of Surgery at the University, which position he held at the time of his death.

Dr. Deaver was a prolific writer and lecturer on anatomical and surgical subjects, among his best known writings were his work on Surgical Anatomy, Appendicitis, Enlargement of the Prostate, Surgery of the Upper Abdomen and Diseases of the Breast, together with numerous papers, brochures and lectures on surgical subjects.

He was always an ardent advocate of operative surgery and frequently engaged in lively discussions with more conservative surgeons.

He was a conspicuous figure in every gathering of medical men that he attended, being especially prominent by reason of his wit, his dramatic way of expressing himself, and his scientific arguments, which were based upon his enormous surgical experience.

One of the chief characteristics of Dr. Deaver was his heart of sympathy for suffering humanity in need of his great skill, no one in need of his services was ever turned away.

Another most admirable trait of his character was his spirit of kindly, friendly helpfulness to the average struggling doctor, who was trying to make good. He was also immensely popular with students all through his active career.

He held many positions of honor in his profession, the most notable one being his Presidency of American College of Surgeons.

A life so full of varied and strenuous activities covering so many fields, extending over a period of half a century, can only be briefly touched upon in a meeting like this.

Dr. Deaver very graciously favored this Society a few years ago, by appearing as its honored guest, and making an outstanding contribution to surgical literature in the lecture that he gave.

The writer and several of the members of this Society are greatly indebted to him for friendship, wise council and many professional favors.

It seems especially fit and proper for us at this time to pass resolutions of respect and sincere regret at the passing of this great man, who was our friend, and brother, from his field of usefulness and activity. Therefore, be it resolved, by the Johnson City and Washington County Medical Society, in regular meeting assembled, this October 8th, 1931,

First: That we deeply deplore and mourn the passing of Dr. Deaver, who enjoyed an international reputation of being one of the world's most eminent surgeons. And we express it as our belief that no man either living or dead, has done more, as author, teacher, or master operator, to advance, standardize and simplify the science and art of surgery. His whole mind, heart and hand, was in his work, for more than half a century. We feel that suffering humanity, the great profession surgery, and we personally are much poorer for his passing, we feel the great loss of his advice, council and genuine wholehearted friendship.

Second: That we extend our sincere sympathy to the family of our departed friend in their great loss and that we commend them to the all-wise and Divine Comforter of us all in their sorrow and bereavement.

Third: Resolved, that we furnish a copy of these proceedings to the family of Dr. Deaver, and that the Journal of the Tennessee State Medical Association, and the Johnson City Chronicle, be furnished a copy of these proceedings with a request for publication.

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*A tribute delivered before the East Tennessee Medical Society by Dr. C. W. Friberg, Johnson City.

MEMORIAL TO DR. PAUL FITZSIMMONS EVE

In the historic city of Augusta, Georgia, on November 14th, there was dedicated and unveiled a monument to the memory of Dr. Paul Fitzsimmons Eve, one of Tennessee's most noted surgeons.

Dr. Eve was born near the city of Augusta, Georgia, in 1806. Though much of his life was spent in Nashville he is claimed as a world citizen because of his widely distributed service.

After graduation in America he studied in London and Paris. While in the latter city Charles X was dethroned and Dr. Eve entered the services of the Revolutionists as an ambulance surgeon. The following year he was with the Polish forces and later returned to America. He was the first volunteer surgeon appointed in the war with Mexico. In 1859 he saw service in Italy under the command of Napoleon III and King Victor Emanuel. Throughout the Civil War he was with the Confederate army.

In civil life he devoted his energies to the practice and teaching of medicine in Tennessee and Georgia. He was a prolific writer on medical subjects. He was President of the Tennessee State Medical Association and President of the American Medical Association.

With such a record it is fitting that Augusta, Georgia, commemorate the life of its illustrious son.

The unveiling ceremony was held in Augusta, Georgia, on November 14th, at 1:30 p. m., as follows:

Music.

Call to Order by the Chairman.

Invocation.

Introductory Remarks.

Unveiling of Memorials—Miss Genevieve Eve and Miss Lovelace Eve.

Presentation of Bronze Tablet from the Polish-American Medical and Dental Association by Dr. K. G. Cieslak, President.

Presentation of Bronze Tablet from the Medical Department of the University of Georgia, by Dr. W. L. Moss, Dean.

Acceptance of Memorials by Mayor W. D. Jennings for the City of Augusta.

Address by Nathaniel Spear, Jr., in behalf of the National Commander of the American Legion.

Address in behalf of the Eve family by Dr. Duncan Eve, of Nashville, Tenn., grandson of Dr. Paul Fitzsimmons Eve.

Address by His Excellency, the Polish Ambassador.

Address by His Excellency, the President of the United States, or his personal representative.

Music.

RESOLUTIONS ON THE DEATH OF DR. GEORGE PEYTON CHAMBERS

Be It Resolved, by the members of the Five Counties Medical Society, composed of the counties, Hardin, Lawrence, Lewis, Perry and Wayne, that: In the death of Dr. George Peyton Chambers, which sad event occurred at his home in Savannah, Tenn., on Thursday, September 3rd, 1931, that the society lost one whose high ideals, integrity of life, devotion to the duties of the medical profession and lofty character will ever remain a beacon light, great and sweet memory in the hearts of those who knew him.

As a practicing physician and a member of the Five Counties and State Medical Societies and the American Medical Association, Doctor Chambers represented in his daily life those high principles, and all the virtues which organized medicine ever strives to inculcate in the minds and hearts of its votaries. In spite of many physical infirmities of a painful and harassing nature and frequent attacks of bodily exhaustion, he carried on his large medical practice for more than thirty years in this section and ceased from his labors only a few years prior to his death. During this brief period before death came on, he frequently mentioned some unfortunate ones here and there who needed assistance, not only medicine, but the service from the social and charitable organizations of the county.

Such broad human sympathy was characteristic of this beloved physician throughout his life. Thus his death leaves this county he served bereft of an irreparable loss. His career was cut short by the inscrutable decree of an All-Wise, All-Seeing and Omnipotent Providence.

RISDEN J. DEFORD, M.D.,
O. H. WILLIAMS, M.D.,
O. C. DOTY, M.D.,
OTIS WHITLOW, M.D.

RESOLUTION ON THE DEATH OF J. H. PICKARD, M.D.

Whereas, J. H. Pickard, M.D., late a resident of Hohenwald in Lewis County, Tennessee, and for many years a practicing physician in Middle Tennessee, departed this life on August 5th, 1931, having attained the age of fifty-six years, and

Whereas, the said Member of the Profession, who was graduated from the Vanderbilt Medical School in 1897, and thereafter engaged in practice at Summertown in Lawrence County for a number of years, after which he practiced at Napier in Lewis County for a period of about ten years, at which place he was physician for the Napier Iron Works, following the cessation of operations of which Company at Napier, he removed to Hohenwald, where he practiced until rendered unable by his last illness, was a man of highest morals, of good christian character, an efficient and dependable physician, who commanded always the highest respect and regard of those with whom he came in contact, and who, by reason of his conscientious efforts to relieve the suffering of his fellowman with no purpose other than such result in view, his character was generally regarded as one to be envied, and

Whereas, the enviable reputation of said departed Member of the Profession, as the physician, was in no wise second to that born by him as a christian gentleman, he having been a member of the Baptist Church practically all of his life, and in which he was an active member, and

Whereas, in the opinion of the Five Counties Medical Society, this section of the State, and particularly the County of his residence, have sustained a great loss in his death and said Society has sustained the loss of one of its most active and capable members and a past president;

Now, therefore, Be it Resolved, by the Five Counties Medical Society, that its loss in the death of its said member be and the same is hereby expressed and its sorrow and profound sympathy to the family of the deceased is likewise expressed and extended;

Be It Further Resolved, That a copy of this Resolution be spread upon the Minutes of this Society and a copy hereof transmitted to the family of the deceased.

Thos. J. Stockard, M.D.,
Geo. N. Springer, M.D.,
W. E. Boyce, M.D.

NEWS NOTES AND COMMENTS

The Nashville Academy of Medicine and Davidson County Medical Society has accepted an invitation to be the guest of the Nashville Surgical Supply Company, at dinner on November 24th, at the Noel Hotel, 7 p. m.

A delightful time was enjoyed last year by all who were present. Every effort is being made this year to have a bigger and better time. The hotel has been told to excel their menu of last year (but we do not believe this is possible).

The Academy has secured Dr. Morris Fishbein, Editor of the Journal of the American Medical Association, Chicago, to deliver the after dinner address. We have all read and heard Dr. Fishbein and, therefore, we are anxious to hear him again.

The doctors in and around Nashville are being urged to come (and they will, for a dinner meeting of the Academy is always well attended).

Many very attractive prizes for the holders of lucky numbers and favors for all are being prepared.

Our host, Mr. Cooper, is doing all he can to make this year's banquet excel last year's and we know he will succeed in his effort.

Dr. Parker Smith, son of Dr. W. F. Smith, of Decherd, has opened an office in Winchester.

Dr. Graydon E. Evans has opened his office over the Boyd Drug Store in Greeneville.

Press reports congratulate Dr. J. P. Grisard, of Winchester, upon his recovery from his recent illness.

Dr. Eugene Elder, superintendent of the General Hospital, Knoxville, led a round table discussion on "Hospital Management" at the New York meeting of the American College of Surgeons.

Dr. E. M. Culp, of Clifton, has opened his new office. Several weeks ago Dr. Culp lost his office and equipment in a fire.

Dr. Earl Campbell has been elected president of the Chattanooga Surgeons' Club. Other officers elected at the annual election were Dr. Dunbar Newell, vice-president, and Dr. G. Victor Williams, secretary-treasurer.

Dr. Dewey Peters, of Knoxville, has moved his office to 609 Walnut Street.

The next examination of the American Board of Otolaryngology will be held in New Orleans on May 9th. Prospective applicants should address Dr. W. P. Wherry, 1500 Medical Arts Building, Omaha, Nebraska.

Dr. E. T. Kelty, of Tiptonville, recently had his tonsils removed at the Dyersburg hospital.

Nashville, Chattanooga and Knoxville papers on the first and second of October carried an Associated Press dispatch from Kansas City to the effect that a Johnson City (Tennessee) doctor was robbed of his pajama pants. The doctor "told the police he slept so soundly in his hotel room that thieves stole his pajama trousers without awakening him." In a secret pocket of the missing garment was one hundred seventeen dollars and a watch and chain.

All of which may be true, but all of which we doubt, inasmuch as there is no record in Tennessee, nor in the American Medical Association directory of the doctor named in the dispatch. Probably there is no such man.

MEDICAL SOCIETIES

Bedford County—On the 15th, the October meeting was addressed by Dr. J. W. Sutton, whose subject was "Milk Poison."

The November meeting will be held on the 19th. Dr. J. L. Morton will speak on "Apoplexy."

December 17th is the annual meeting at which time the president, Dr. J. T. Wood, will deliver an address. Election of officers and payment of dues for the coming year will complete the program.

Benton, Carroll, Henry, Weakley Counties—From the Huntingdon Republican of October 16th, we clip the following:

"The doctors are sure enough a live bunch. They are active in attending their regular meetings held at McKenzie each month. Tuesday night of this week they held their session at Hotel Lynn and Dr. E. M. Alexander, of McKenzie, presided. The following papers were read: 'The Anatomy and Physiology of the Kidney', by Dr. R. G. Fish, and 'The Diagnosis of Kidney Diseases', by Dr. V. E. Massey, Huntingdon."

Carter County—Dr. Harry Bachman, of Bristol, delivered an address at the regular monthly meeting of the Carter County Medical Society held on October 6th in the office of Dr. Paul S. Williams. The address was an interesting discourse on "Thyroid Diseases".

Other matters of interest to the medical profession and problems in the practice of medicine and surgery were discussed at the meeting.

Those present were Drs. W. G. Frost, J. L. Cottrell, Paul S. Williams, W. H. Longmire, E. T. Pearson, Charles Baughman, Elizabethton, and Drs. Swift and Ira Gamble, of Butler.

Chattanooga and Hamilton County Medical Society—The following numbers are scheduled to complete the work of the year:

Nov. 5th: "Wilhelm Conrad Roentgen", by Dr. J. Marsh Frere. "Problems in Juvenile Behaviorisms", by Dr. W. E. Van Order.

Nov. 12th: "Prenatal Care and Management During Labor and Puerperium", by Dr. H. P. Hewitt. "Pruritis Ani", by Dr. John L. Cooley.

Nov. 19th: Paper by Dr. G. Victor Williams. "Medical Museum Needs of Chattanooga", by Dr. J. C. Brooks.

Dec. 10th: Dr. Waltman Walters, of Rochester, Minnesota, will be the guest speaker.

Davidson County—Oct. 27th: "Some Case Reports of Interest to the Profession at Large", by Dr. L. E. Burch. Discussion opened by Dr. W. C. Dixon.

Nov. 3rd: "Treatment of Hyperemesis Gravidarum", by Dr. J. S. Cayce. Discussion opened by Dr. Paul Warner.

Nov. 10th: "The Relationship of Hypertension and Nephritis", by Dr. O. N. Bryan.

Nov. 17th: "Appendicitis With Brief Review of 530 Consecutive Cases Subjected to Operation", by Dr. R. A. Barr.

Nov. 24th: The Academy has accepted an invitation of the Nashville Surgical Supply Company to be its dinner guests at the Noel Hotel at 7 p. m. Dr. Morris Fishbein, Editor of the Journal of the American Medical Association, has accepted an invitation to be the after dinner speaker.

Dec. 1st: "Emphasizing Some Ophthalmological Matters of General Interest", by Dr. E. C. Ellett, Memphis.

Dyer, Lake and Crockett Counties—More than one hundred physicians attended the October meeting of this live society. A barbecue banquet was served by the Dyersburg physicians at Hotel Belmont to the other members of the society and to all visitors who had appeared on this year's program. President C. L. Denton acted as toastmaster for the after dinner talks.

The medical program included the following papers: "Fractures", by Dr. Charles A. Turner, of Dyersburg; "The Bone Graft and Its Functions", by Dr. J. P. Baird, of the Baird-Brewer General Hospital, Dyersburg; "The Diagnosis and Management of Stones in the Kidney", by Dr. Thomas D. Moore, of Memphis.

Giles County—Dr. W. F. Copeland, of Cornersville, read a treatise on "The Modern Methods of Treating Angina Pectoris" at the September meeting of the Giles County Medical Society held on the 24th.

Hamblen County—Dr. D. S. Shields spoke at the October meeting on "Reminiscences of My Profession". The meeting was held in Dr. Carroll's office and a large portion of the membership was present.

Hardin, Lawrence, Lewis, Perry, Wayne Counties—The October meeting was held in Savannah on the 22nd. Twenty-five were present at the meeting. Lunch was served at the Chamber of Commerce rooms. The scientific program consisted of four papers, as follows:

"The Mouth and Its Relation to Disease", by Dr. J. T. Keeton, Clifton. Discussion opened by Dr. L. A. Parker, Saltillo.

"Pyelitis, and Various Kidney Diseases and Their Manifestations", by Dr. Edward C. Mitchell, Memphis. Discussion opened by Dr. W. S. Simpson, Memphis.

"Injuries Which May Result From the Use of Salvarsan", by Dr. J. B. McElroy, Memphis. Discussion opened by Dr. R. J. DeFord, Savannah.

"Epilepsy", by Dr. F. H. Norman, Waynesboro. Discussion opened by Dr. C. M. Womack, Lawrenceburg.

Knox County—October 13th: "Appendicitis in Children", by Dr. W. R. Cross. Discussion opened by Dr. A. G. Kern.

October 20th: "Hernia in Children", by Dr. R. G. Waterhouse. Discussion opened by Dr. Joe T. Smith.

October 27th: "A Discussion of Stiff Joints and Their Management", by Dr. Robert Patterson. Discussion opened by Dr. Kyle Copenhaver.

Monroe County—On October 13th, the society met to organize for the winter program. The summer meetings have been held with McMinn, Loudon and Roane counties. The society is considering monthly meetings in Madisonville in lieu of the former bi-monthly meetings. The program for the November meeting consisted of papers by Dr. Bagwell and Dr. Kimbrough. By invitation Dr. Richards presented a paper on "Medical Ethics".

Members present were Drs. Parker, Roberts and Barnes, of Sweetwater; Drs. Bagwell, Kimbrough and Shearer, of Madisonville; Dr. McCollum, of Vonore, and one visitor, Dr. Richards.

Robertson County—The Society was entertained at its October meeting by Dr. and Mrs. C. M. Banks, of Greenbrier. A delightful course luncheon was served.

The scientific program was furnished by Drs. E. M. Sanders and Herman Spitz. Their subjects were "Graves Disease" and "Food Allergy and Hayfever", respectively. Both papers were freely discussed.

Members of the local society present

were: Drs. Hawkins, Banks, Henry, Rude, Fentress, Gossett, Freeman, Dye, Moore, and Fyke.

The next meeting of the society will be held with Dr. Sanford E. Ayres in Orlinda on Tuesday, November 17th.

OTHER MEDICAL SOCIETIES

American College of Physicians—The Sixteenth Annual Clinical Session of the American College of Physicians will be held in San Francisco, California, April 4-8, 1932. The headquarters in San Francisco will be the Palace Hotel, where the general scientific sessions, registration, and exhibits will be held. Clinics will be conducted in various hospitals and institutions in San Francisco and nearby communities.

Walnut Log Medical Society—November 13-14 were the dates of this year's meeting. A good program was offered and all present were greatly pleased by the success of the meeting.

The Tri-State Medical Association—Plans are being made for more than one thousand guests at the meeting to be held in Memphis on February 9-12.

Last year the Association's name was changed from the "Tri-State Medical Association" to the "Mid-Southern Postgraduate Medical Association". The policy and tradition, as established under the old name, and the enlarged vision, as indicated by the new name, will work together to insure to all the profession, a meeting with a program of the highest order.

East Tennessee Medical Association—Dr. L. E. Dyer, of Greeneville, heads the East Tennessee Medical Association as president for the ensuing year. Other officers chosen were: Dr. E. L. Caudill, of Elizabethton, vice-president for upper East Tennessee; Dr. J. D. LeGuire, of Maryville, vice-president for lower East Tennessee; Dr. Jesse C. Hill, of Knoxville, secretary-treasurer, re-elected.

Middle Tennessee Medical Association—The seventy-fourth semi-annual meeting was held on November 5th and 6th at Fayetteville. A good program was presented and the Lincoln County doctors sustained their reputation of being hosts excelled by none.

PROGRAM FOR MEETING OF THE VANDEBRILT UNIVERSITY MEDICAL SOCIETY

October 2, 1931, 8 P. M.

Amphitheater of the Medical School

I. *Case Reports*:

(a) Ligation of Left Subclavian Artery —Dr. Barney Brooks.

G. R., colored, male, age 25. Patient received a stab wound just above the middle of the left clavicle. Very profuse hemorrhage. After external bleeding stopped, left shoulder and pectoral region continued to swell. General condition began to fail.

Diagnosis: Concealed bleeding from severed subclavian artery.

Operation: Exposure first portion left subclavian artery. Vessel temporarily occluded. Severed first portion of axillary artery exposed. In order to expose injured vessel it was necessary to ligate and divide the internal jugular and left subclavian vein. Both stumps of injured artery ligated. Wound closed. Patient died of sepsis approximately one week after operation. Autopsy revealed no further bleeding from arterial wound.

No discussion.

(b) Amputation of Arm of Patient with Hemophilia—Dr. Ralph M. Larsen.

J. L. S., white, male, age 39, an established hemophiliac, entered the hospital following traumatic hemorrhage into right arm, with development of gangrene. Subsequent to separation of line of demarcation, spontaneous rupture of large branch radial artery occurred. Because of the development of wet gangrene prior to this time, extremity was amputated at junction of upper and middle third of arm, with ligation of all structures and without closure of stump. Multiple transfusions given;

tannic acid, 2 per cent, applied to stump to control bleeding. Healing was spontaneous and complete 35 days following amputation.

Case discussed by Drs. Burwell, Brooks, Youmans and Blalock.

II. The Hydrogen Ion Concentration of Intestinal Content—Dr. C. C. Robinson.

The intestinal contents of rats on diets high in animal protein were more acid than contents from a low protein vegetable diet. Twenty-five per cent lactose caused a greater reduction of pH in the latter case. Increase in base content caused higher pH's only in the small intestine and when lactose was fed. Fecal reaction was not an index of the reaction of the small intestine.

Paper discussed by Drs. Neill, Brooks and Garrey.

III. The Relation Between Intra-Intestinal Pressure and the Rate of Absorption of Water—Dr. Herbert S. Wells.

Using isolated jejunal loops in dogs anesthetized with barbital, it is shown that absorption of water from 0.9 per cent NaCl solution continues down to negative intra-intestinal pressures of -8 to -26 cm. of solution. There is an exact proportionality between pressure and rate. This indicates that the absorbing force is constant and suggests that it may reside in the osmotic pressure of the proteins of the tissue fluids of the villi.

Paper discussed by Drs. King and Lamson.

NEWS OF WOMAN'S AUXILIARY

WOMAN'S AUXILIARY
TENNESSEE STATE MEDICAL ASSOCIATION

Advisory Committee

C. M. Hamilton, Chairman, Nashville.
R. N. Herbert, Nashville.
L. T. Stem, Chattanooga.
Shields Abernathy, Memphis.
D. H. Anthony, Memphis.

MRS. W. H. GRAGG, Memphis
President
MRS. ROGERS N. HERBERT, Nashville
Chairman Press and Publicity Committee

In his message to the Woman's Auxiliary to the Colorado State Medical Association, Dr. E. S. Judd, president of the American Medical Association, reminds the women of the opportunities for service to scientific medicine through their membership in lay organizations. He quotes the President of the Maine Medical Association as saying a systematic propoganda was being carried out for the purpose of promoting irregular medical practices. This is done by sending representatives to women's clubs and other organizations to disseminate the information. "If women's auxiliaries", says Dr. Judd, "will assume the responsibility of helping the members of their clubs and also the parent-teacher associations keep informed regarding the proper medical practices, they could perform a great service to their communities."

The organization department of the Woman's Auxiliary is rounding up plans to promote the interest of organization.

In September the Woman's Auxiliary to the Nashville Academy and Davidson County Medical Society was honored with a visit from the National President, Mrs. Arthur B. McGlothlan, St. Joseph, Missouri. Mrs. McGlothlan gave a very fine and inspiring address to the Auxiliary at a luncheon given in her honor at Belle Meade Club on the subject of "Ways in Which Auxiliaries Can Help Health Education."

Invitations were issued to the state officers to attend this luncheon of which the President, Mrs. W. H. Gragg, accepted, and gave a few ultra gracious words.

The Davidson County Auxiliary held its opening fall meeting on October 5th. The meeting was given to a memorial service for our beloved Dr. Robert Caldwell who had served the Auxiliary as chairman of its Advisory Council.

In the business meeting there was evidence of work being accomplished from the reports of the chairmen, Mrs. W. O. Floyd, of the philanthropic work, and Mrs. J. D. Lester, Hygeia chairman.

Mrs. Lester reported increased subscriptions to Hygeia health magazine and seventeen radio health talks.

The Knox County Auxiliary reports an increase in membership and stimulated interest to the end of their activities going forward.

BOOK REVIEWS

DISCOVERING OURSELVES—Streckel & Appel. Publishers: The MacMillan Company, Price $3.00.

The authors of this book have presented their subject in a manner which will appeal to the mind of the laity as well as the physician. Much is being written at present on psychology. Some of it is helpful to those who can understand it, but most of it is valueless because it does not bring anything new to the trained mind, and cannot be digested by the average person who reads it. This book, although a scientific treatise, is easy to read and brings to the reader, whether layman or physician, in plain language, the elements of psychology and the mental mechanisms whereby we overcome or compensate for certain mental defects in life, called in terms of psychiatry, mental conflicts. It explains the mechanisms whereby these conflicts if not properly understood by the patient or compensated for, develop nervousness, the neuroses, psychoneuroses, etc. It is good reading for any physician, specialist or general practitioner, and can be recommended to patients in selected cases.

—J. P. G.

ABSTRACTS OF CURRENT LITERATURE

ANESTHESIA

By Hugh Barr, M.D.
Medical Arts Bldg., Nashville

Anesthesia a Medical Specialty. William W. Hutchinson, M.D., Los Angeles. California and Western Medicine, Oct., 1931.

When ether was first used as an anesthetic there was a general demand everywhere for its use. It was administered by anybody, consequently there was a high mortality. Due to this high mortality physicians began to take more care and precautions. They took a definite interest in overcoming the dangers incident to anesthesia by studying and training themselves. The advance of the specialty was at first slow.

Due to research by the medical profession there has been produced new anesthetic agents, new methods and newer and safer apparatus. All these advances have so broadened the scope of anesthesia that it is an alluring field of endeavor for any physician. The specialty has been somewhat retarded by the attitude of most of our medical colleges and the American Medical Association. Sufficient stress has not been given this important subject.

Lay anesthetists are only technicians. The surgeon has no one to divide responsibility. If an emergency arises the surgeon must interrupt his work to attend to the patient's condition. Some claim that a technician has the equal right to administer an anesthetic as to give a hyperdermic. The author does not agree with this assumption, contending that if a technician orders any stimulation he violates the medical practice act, not having a license to practice medicine. But if the technician does not do this, he must cause confusion by interrupting the surgeon.

In case of death under anesthesia the courts have held that the hospital is liable where technician anesthetists have been used, holding all reasonable precautions have not been taken in the case. In conclusion the author makes a plea for more adequate instruction in medical schools and recognition by the American Medical Association by the formation of a section of Anesthesiology.

CLINICAL PATHOLOGY

By R. H. Monger, M.D.
Medical Building, Knoxville

Comparison of Culture and Animal Inoculation of Sputum in Diagnosis of Tuberculosis. A. Stadnichenko and H. C. Sweany, Am. Jour. of Clin. Path., July, 1931.

These authors made a comparative study of microscopic sputum examinations with guinea pig inoculation and culture. For this study they had a selected series of 200 patients, 40 of these being children under 15 years of age. For the experimental work 24-hour specimens of sputum were used and this was treated with 3 per cent solution of sodium hydroxide. Half were inoculated into a guinea pig, and half were cultured on the cream medium of Sweany and Evanoff. This series was divided into four groups based on cultural and animal observations. The first group consisted of 131 patients, and was found negative on both guinea pig inoculation and culture. The second group consisted of thirty-three patients, and was found positive on both guinea pig inoculation and culture. The third group which consisted also of thirty-three patients was positive only on guinea pig inoculation. The fourth group consisted of only three patients and was found positive only on culture. The experimental work gives sufficient data to indicate that guinea pig inoculation was superior to the cultural method for sputum that was badly contaminated, but culture study has the advantage of being more absolute, more inexpensive, and permitting of more repetitions.

Streptococcus Hemolyticus in Nasopharynx of Children. H. F. Helmholz, Am. Journal of Diseases of Children, Aug., 1931.

In a series of eighteen children, varying in age from 2 to 14 years, the author studied cultures of nasopharyngeal swabbings which were taken once every two weeks over a period of two years. These swabbings were taken in the homes of the children and great care was taken to bend the wire applicator so as to avoid contact with any portion of the mouth and to touch only the Nasopharynx. In the laboratory the swabs were rinsed in 2 c.c. of physiologic solution of sodium chloride. Two drops were put in a petri dish and incubated in 5 per cent blood agar. Inoculations were also made in tubes of dextrose-brain broth. These cultures were allowed to grow for twenty-four hours, and then subcultures were made on blood agar. There were certain differences in the number of streptococci, staphylococci, and gram negative and gram positive bacilli, and since it was impossible by this method to show any relation to the original number of organisms, it was discontinued and only the direct inoculations of blood agar plates were used. Altogether 486 cultures were made; of these 216 were positive for streptococcus hemolyticus and 270 were negative. In the 98 infections of the upper respiratory tract occurring in the special group during this period, positive cultures occurred in 49 and negative cultures in 49. It would appear then that the mere presence of streptococcus hemolyticus in cultures from the throat is of no significance. If, however, it represents a high percentage of the organisms present it may be of etiologic significance.

DERMATOLOGY

By E. E. Brown, M.D.
Doctors Building, Nashville

Occupational Dermatitis, by John E. Kiley, M.D., Newark, N. J., New Jersey Medical Journal, August, 1931.

The author reviews the advance that has been made in the recognition of occupational dermatitis, and makes a plea for more accurate classification.

He further deals with diagnosis, pathology, prevention and treatment. A few suggestions are offered for those who encounter irritants, such as:

(1) Emollients before and after work.

(2) Complete removal of the irritant encountered at work by harmless methods several times per shift.

(3) Inspection of hands and arms by experienced observer to enforce: (a) Early treatment of cuts and burns; (b) scrupulous cleanliness of the finger-nails, hands, arms, and overalls; (c) removal from irritants, and prompt treatment of early lesions.

End Results in Roentgen Ray Treatment of Acne Vulgaris, by Llewellyn Williams Lord, M.D., and Jarold E. Kemp, M.D., Baltimore, Md., Southern Medical Journal, October, 1931.

From January 1st, 1922, to December 31st, 1928, 406 patients were treated with x-ray for acne vulgaris. These were communicated with and 247 responded, or were seen personally. The technique used was one-fourth skin unit unfiltered x-ray at weekly intervals. The treatments varied from five to eighteen, but were stopped as soon as the lesions cleared up. An astringent lotion was used in combination, as well as opening pustules and punching comedones, and also regulation of carbohydrate intake. Of the 247 patients that responded 184 (74.5 per cent) reported complete cure or were greatly relieved. Sixty-three (25.5 per cent) had relapses.

His conclusions were that x-ray in combination with diet and local application of an astringent lotion offer the best known treatment for acne vulgaris.

OPTHALMOLOGY

By Robert J. Warner, M.D.
Doctors Building, Nashville

Diabetes and the Eye, M. Rosenberg. American Journal of Ophthalmology, Sept., 1931.

This is an internist's lecture on the eye changes observed in diabetics. From the oculist's point of view it is wise to divide diabetes into two types, the severe diabetes of youth, and the mild form of old age. The aged diabetic very frequently has severe arterial disease, and most of the eye complications are not caused by the diabetes, but by the angiosclerosis. Paresis of accommodation which has always been recognized as an occasional complication occurs with great frequency after insulin is first used. It clears up without treatment after one or two weeks. Aside from disturbances of sugar and acetone-body metabolism, the diabetic has disturbances of salt, and water metabolism, as yet not exhaustively investigated. This probably accounts for the harmless insulin edema as well as the changes of refraction which vary between plus 4.00 and minus 9.00 diopters. The myopia results from swelling of the lens. Whether hypermetropia is the result of lens shrinkage or merely becomes manifest as a result of paresis of accommodation is not known. Paralysis of the external muscles is rare.

The retinitis of diabetes is never found in young persons and is a vascular retinitis. However, the form of retinitis with white spots about the macula and disc is so characteristic that the glycemia or diabetic metabolism may be an accompanying etiologic factor. The hemorrhages have nothing to do with diabetes. Most so-called diabetic cataracts are senile cataracts in diabetics. Doubtless an untreated diabetic ages more rapidly. More difficult is a pathogenetic explanation of the rare bilateral cataract of the youthful diabetic. Many internists regard it as specific. Hypotony of the bulbus in diabetic coma is a frequent, though not constant, finding and is a manifestation of general dehydration. Though diabetics are less resistant to infiltrative and purulent infections, inflammatory lesions of the eye have not been more frequent in these than in other patients of the internists. Therapy is useless in the complications which are senile or vascular in origin, but is extremely helpful in infections and operations.

ORTHOPEDIC SURGERY

By Robert F. Patterson, M.D.
Medical Arts Building, Knoxville

An Operation for Extremely Relaxed Flat Feet, by Michael Hoke. Journal Bone and Joint Surgery, Oct., 1931.

The author describes the type of foot in which this operation is indicated thus: "They are flat, elongated, badly pronated, moderately abducted and extremely flexible at the mid-tarsal joints. The flexibility is greatest in the scaphoid cuneiform and internal middle cuneiform joints."

We immediately recognize from this description a type of flat foot in which conservative treatment is ineffective. The points of major importance in these feet are (1) a short tendo achilles; (2) extremely flexible joints at points above indicated. In order to cure such a flat foot two things are necessary. First to lengthen the tendo achilles and second to anchylose the joints where the sagging takes place. The operation is done as follows:

The tendo achilles is elongated through an inner skin incision by cutting half way through the tendon on posterior surface at upper and lower end of tendon and then it is cut half in two on the anterior surface carrying the tenetone forward after piercing the tendon from side to side in the center of the space between the posterior cuts. The skin incision is now closed. When the foot is extended the cuts separate and the tendon slides on itself. An assistant now holds the foot in equinus by grasping the anterior ends of the metastarsals. The scaphoid cuneiform joint is opened and the periostium is elevated by cross cuts and a rectangular piece of bone one-half inch depth is removed from scaphoid and cuneiform bones crossing the joint. The removed bone is cut into small bits and a graft of the same size is removed from the tibea and fitted into the bed. The fragments of bone are packed around and in the deep and superficial places, not fitted by the graft. The flaps are closed and the skin is sewed.

A plaster splint is applied embracing just the heel and sides of the foot coming together on the dorsum. When this hardens the edges are separated and cotton is packed under them. Then when firm the foot is dorso flexed and a cast is applied over the foot and leg to the knee. The cast is then taken off in two weeks for dressings and removal of sutures and another is applied. This is worn six weeks; shoes and foot plates are applied after a week or so of physiotherapy and walking is resumed.

SURGERY — GENERAL AND ABDOMINAL

By John L. Dies, M.D.
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Acute Empyema Thoracis. Ochsner Alton and Gage, Idys Mims. Annals of Surgery, 94:25-37, July, 1931.

The present report is based on an analytic study of 124 consecutive cases of acute empyema thoracis occurring in adults admitted to the Charity Hospital during the past ten years. Patients under ten years of age are not included. The results of the study are significant because the patients were admitted to different surgical services and no uniform treatment was used.

Of the 124 cases admitted, 80 were white and 44 were colored. There were 97 males and 27 females. When considered according to ages, 40 were between the ages of eleven and twenty years, 33 between twenty-one and thirty, 25 between thirty-one and forty, 15 between forty-one and fifty, 11 above fifty years of age. In the entire series 78.9 per cent occurred in the second, third and fourth decades. The mortality rate in the series was highest in those cases occurring after 51 years of age (43.6 per cent). The average ages of all patients was 31.5 years, the average age in the white race, 30 years, and that in the colored, 33 years.

Lobar pneumonia was the cause of empyema in

61.9 per cent, influenza in 18.1 per cent, lung abscess in 5.5 per cent, and a metastatic lesion and stab wound of the thorax each in 0.9 per cent. Tuberculosis was the underlying lesion in 19.7 per cent of the colored patients and 8.7 per cent of the white patients.

The signs and symptoms presented by the patients in the present series in order of their frequency were as follows: Dullness on percussion; pain; cough; limitation of thoracic movement; absence of breath sounds; expectoration, and cardiac displacement. There was relatively little difference between the two races except that absent breath sounds occurred twice as frequent in the colored as in the white.

The average maximum and minimum preoperative temperatures were 101.9 and 97.9 degrees F., respectively. The average maximum and minimum preoperative pulse rates were 124 and 81, respectively; there was practically no difference between the two races.

In the series empyema occurred on the right and left sides with equal frequency, 68 times each; in five cases there was a bilateral precess. The mortality rate was somewhat higher in the cases with right sided empyema (17.16 per cent) than in those in which the left side was involved (10.3 per cent). However, in the colored race, the mortality in left sided empyema (33.3 per cent) was definitely higher than in the right-sided processes (5 per cent), and in the white race the mortality was higher in right-sided (13.16 per cent) than in left-sided lesions (3.9 per cent).

Of utmost importance as regards the treatment and prognosis in acute empyema is the type of empyema.

In 111 cases of the present series, the type of empyema was stated. It was the metapneumonic variety in 67 cases, of the synpneumonic type in 24, of a tuberculous nature in 14, and staphylococcic in six. Rather significant is the relatively high percentage of acute tuberculous (secondarily infected) empyemas occurring in the negro, 20.5 per cent as compared with 8.3 per cent in the white.

Of the 67 cases of metapneumonic empyema, improvement occurred in 53, recovery in nine, and death in five. There was little difference between the two races except that the metapneumonic variety occurred in 63.6 per cent of the colored patients and 53.7 per cent of the white patients. Of the 24 cases in which synpneumonic empyema 14 improved and four recovered and six died. Of the 14 cases in which the underlying lesion of the pleura was a tuberculous one, six occurred in the white race and eight in the colored race. All of those occurring in the white race and half of those occurring in the colored race improved. Of the entire 14 cases, 10 were improved and four died. Six cases of staphylococcic empyema were treated, all of which occurred in the white race. Five were improved and one recovered.

A knowledge of the type of exudate within the pleural cavity is of extreme importance, both from the standpoint of prognosis and treatment in empyema. Early in the course of influenza or streptococcic empyemas, the fluid is usually hemorrhagic or serous and contains relatively little fibrin, the fibrin being present in the form of flakes. It is in this stage of the process that the mediastinum operation is especially dangerous. It is imperative before undertaking the treatment of any case of empyema to determine the character of the fluid present. In this series in 96 cases the pleural exudate was purulent, in five it was serous, in six it was hemorrhagic, and in 15 the character of the fluid was not stated. The prognostic value of the character of the fluid is demonstrated well in this series of cases, as 75 per cent of the cases with purulent fluid were improved, 17.7 per cent recovered, and only 7.3 per cent died, whereas 40 per cent of the patients with serous effusion were improved, 40 per cent recovered, and 20 per cent died, and 100 per cent of the patients with hemorrhagic fluid died. Of the 96 patients with purulent exudate, 62 were white and 34 were colored. There is relatively little difference between the two races except that only 3.2 per cent of the white patients with purulent pleural exudate died, where 14.7 per cent of the colored patients with the same type of fluid succumbed.

The prognosis and treatment depend upon a knowledge of the offending organism, not only because of the difference in the toxemia, but also because of the difference in the reaction in the pleura produced by the various organisms. The prognosis in the streptococcic empyemas is much worse than in the pheumococcic variety.

In this series cultures were reported in 91 cases. Of this number, 56 showed pneumococcic, 16 showed streptococcic, 6 showed staphylococci, and 12 were sterile. Of the 56 patients whose pleural fluid contained pneumococcic, 43 improved, 8 recovered, and 5 died. Of the six with staphylococci, 5 improved and one recovered, whereas of the 12 patients with sterile pleural exudates, 9 improved and 3 died.

The treatment of empyema should accomplish the following: Relief of toxemia; relief of increased intrathoracic pressure; evacuation of intrapleural fluid; establishment of the function of the lungs by causing re-expansion; prevention of the condition from becoming chronic.

Toxemia may be lessened to a considerable extent by the cautious removal of pleural fluid without opening new avenues for its absorption. The general care of patients suffering with acute empyema should not be neglected. The question of diet has been emphasized repeatedly.

Increased intrathoracic pressure is best treated by aspiration, which should be employed in all types of empyema. Aspiration should always be used as a diagnostic procedure before any type of surgical therapy is attempted. It is indeed the only method which can be used in the synpneumonic type, especially that due to streptococci, before the fluid becomes purulent.

Evacuation of the pleural fluid may be accomplished in a number of different ways. At the present time, even though a large number of surgeons prefer an open operation, a still larger number employ some type of closed drainage, especially supplemented with irrigation of the pleural cavity. In the synpneumonic type of empyema, particularly the streptococcic variety, it is imperative that the pleural contents be evacuated in such a way that an open pneumothorax is avoided, and at present no one advocated the production of an open pneumothorax early in the course of streptococcic empyema. Even those surgeons who prefer open drainage and rib resection strictly adhere to the rule that preliminary aspiration should be performed until the character of the pleural fluid is changed, indicating that the mediastinum has become fixed. In addition to being of diagnostic and palliative therapeutic value, repeated aspiration are frequently curative.

In the treatment of empyema in the present series of cases, aspiration alone was used in 8.8 per cent of the cases, aspiration plus air injection in 21.5 per cent, intercostal drainage in 30.3 per cent, and rib resection in 39.2 per cent. Aspiration alone resulted in improvement or recovery in 41.7 per cent of the cases in which it was employed. Aspiration of the pleural exudate combined with air injection gave improvement or recovery in 79.2 per cent of the cases in which it was used. There was a mortality rate of 10.3 per cent. Intercostal drainage resulted in improvement in 80.5 per cent, recovery in 7.3 per cent, and death in 12.2 per cent. Rib resection gave the following results: 79.2 per cent were improved, 5.2 per cent recovered, and 13.2 per cent died. The lowest mortality, 10.3 per cent, was obtained by aspiration of the pleural contents combined with air injection.

Open drainage was employed in 45.2 per cent of the cases, of which number 14.5 per cent died and 83.2 per cent were improved or recovered. The mortality rate in the negro following open drainage was 26.3 per cent, whereas that in the white patients was 6.9 per cent. Closed drainage was used in 54.2 per cent, of which number 12.2 per cent died and 87.7 per cent were improved or recovered. Complications developed in 5.8 per cent of the cases. Of the complications, 62.5 per cent occurred in the white race. Acute nephritis, representing 21.8 per cent of all complications, was the most frequent complication encountered. Of the complications, bronchial fistula and abscess of the chest wall represented 15.6 per cent and 9.3 per cent, respectively. There was a mortality rate in the entire group of 15.3 per cent, in the white patients of 10 per cent, and in the negro patients of 25 per cent. Of the entire group, 82.2 per cent were either improved or recovered.

The type of anaesthetic employed was local infiltration in 100 cases, ethylene in four, and in 20 the type of anaesthetic was not stated.

Treatment of Recurrent Hernia. F. R. Hook. United States Naval Medical Bulletin, 29:373-383, July, 1931.

The author bases his discussion on a series of abdominal herniae treated in the Brooklyn Naval Hospital between the dates June 1, 1928, and December 31, 1930. As male adults were the only patients treated, the percentages of results would naturally vary from those in civilian hospitals. Sufficient time has not yet elapsed to make a follow-up study of any value.

Interest centers in the recurrent type of inguinal hernia. Of the 715 inguinal herniae treated in this series, 76 of them were recurrent, making an admission recurrence rate of 10.6 per cent. This is not the recurrence rate for this hospital, as very few of these patients had been operated on here previously. It represents a cross section of the work done by many surgeons throughout the country; this is the most reliable way of arriving at a normal recurrence rate.

Statistics show that about 65 per cent of the inguinal herniae recurring do so within the first six months, 80 per cent within the first year, and 6.5 per cent after two years.

Moschowitz tabulates the causes of recurrence as (a) proper operations improperly done; (b) improper operations properly done; (c) improper operations improperly done. Other writers have laid stress on the following causes:

1. Wound infection.
2. Failure to get all of the sac.
3. Failure to find the associated direct sac during operation for an indirect hernia.
4. Approximation of the muscles and fascia under tension.
5. Inadequate reinforcement of the defective abdominal wall.
6. Using a single "standard" method in operating upon all cases.
7. Failure to unite the internal oblique to the inguinal ligament low down.
8. Leaving fat along the cord.
9. Injury to the inguinal nerves.
10. Leaving the internal ring too large.
11. Failure to maintain the obliquity of the inguinal canal.
12. Patients in which there is poor physical development, anemic fat streaked muscles.
13. Postoperative vomiting, violet coughing, and persistent hiccoughs.

14. Returning to hard labor too soon.

15. Some state that in tying knots too tightly they cut through, while others say that knots must be tied tightly, as union only takes place by the formation of scar tissue.

Any operator who neglects to take into account the difference in anatomy of the direct and indirect herniae and tries to make all of his repairs by a single "standard" operation will surely have a high recurrence rate. It is also believed that any operator who neglects to get all of a sac or fails to find and remove the hidden part of a saddlebag sac is bound to have many failures no matter what type of muscle repair he does.

The author has made it a practice for years in dissecting out a direct sac, no matter how small it is, to always visualize the bladder and strip the redundant peritoneum off of it so that it falls back out of the way. This permits higher ligation of the sac. He has never seen any harm done to the bladder in carrying out this procedure. He considers it poor practice to transplant the stump of the sac as it is likely to make one careless in getting all of the sac.

For the small direct hernia there probably is no better operation than that devised by Willys E. Andrews, providing the aponeurosis of the external oblique can be approximated to the inguinal ligament without being put under tension. Unfortunately there are many cases in which this is impossible. When this is the case, the author believes that the operation of choice is one that makes use of living fascial sutures rather than catgut.

Hodgkins says that repair of recurrent herniae is primarily a suture problem despite the preponderance of recommendations for changing the anatomy of the inguinal canal. Any well planned operation in which the sutures hold the muscle and aponeurosis together will prove successful.

The author has preferred the Gallie operation on account of the unlimited amount of suture material available.

The same attention must be paid to the sac and reformation of the anatomy of the parts as when using catgut suture material if the best results are to be obtained.

The sliding hernia presents real problems. In some of the smaller ones a complete sac can be developed. In the large ones, however, this is usually not the case. Bevan has recently described an invagination method of handling the sac which is theoretically good. In the one case in which the author tried it the neck of the sac was so narrow that the contents of the sac could not be forced through it by this invagination method.

Whatever the type of repair, the obliquity of the canal should be maintained and any operation that allows the cord to come directly through the abdominal wall is defective in principle.

Probably the most difficult type of hernia to cure is the one in which there is a badly frayed inguinal ligament or one where the ligament is practically replaced by scar tissue. Coley has recently reported a method of repairing the inguinal ligament with fascia lata strips which should be of assistance in handling this type of case.

The problem of postoperative ventral hernia, the author believes, is entirely one of suture material. It is not always the large ventral hernia that recurs after operation. Several small ventral herniae were repaired by the imbrication method of Mayo, all of which healed without infection, but promptly recurred, so that now the author feels that every ventral hernia calls for a Gallie repair. Many of those monstrous herniae that formerly were considered inoperable can be cured by this method.

In the author's experience, the most difficult ventral hernia to cure is the one in the right lower quadrant where there has been prolonged drainage through the linea semilunaris. Much of the fascia and muscle has sloughed away, and what remains is atrophic and retracted. In this type of hernia lacing back and forth across the defect with fascia lata sutures will usually bring about a cure.

Femoral hernia does not frequently recur if the sac is amputated high up. The author repairs the femoral ring with a pedunculated strip of fascia taken from the external oblique aponeurosis.

Epigastric herniae are usually small, but do recur at times. More recently the author has been repairing them with a pedunculated strip of fascia taken from the anterior sheath of the rectus muscle.

Umbilical herniae present no special problem. The small ones may be repaired in the same manner as the epigastric herniae, and the larger with fascia lata.

This hospital is not equipped with the follow-up system to be found in civilian hospitals, and it is, therefore, necessary to depend upon questionnaires sent out. Experience has proven that the information thus obtained is anything but reliable.

No follow-up study has yet been attempted in the primary inguinal hernia group. The patients in the recurrent group reported on having been operated on from six months to two and a half years. There were 30 answers from patients operated upon by the Gallie method for recurrent inguinal hernia, 29 of which reported cures, and one stated that his hernia has recurred. The one case repaired by the Hodgkins method reported a cure. Of the 16 recurrent cases where operation was performed by the modified Bassini method, only two patients answered, one stating that he had a cure and the other a recurrence.

Of the 18 Mayo operations for the repair of postoperative ventral hernia, eight patients answered; three reported cures and five had recurrences. Three of these five rcurrences have since been repaired by the Gallie method in this hospital, with a cure in each case. Of the 33 Gallie operations for ventral herniae, there were answers in 14 cases, 11 of which reported cures and three recurrences. One of these recurrences was due to a severe postoperative wound infection, another undoubtedly to faulty technic and the third cause undetermined.

UROLOGY

By Tom R. Barry, M.D., F.A.C.S.,
and F. K. Garvey, M.D.
Medical Building, Knoxville

Diseases of Urinary Tract in Infancy and Childhood. H. L. Kretschmer, S. G. & O., Vol. liii, August, 1931.

A carefully taken history is of utmost importance and will often be a clue to the diagnosis. History of recent acute infections, both of the throat and genito-urinary tract will often point to a pyelitis.

A complete physical examination should include urinalysis, Roentgen-ray, estimation of residual urine, renal function, intravenous pyelography and cystoscopic investigation.

The presence of a suprapubic tumor points to vesical obstruction often caused by urethral valves. Before any instrumentation has been done, careful urine examinations, preferably daily, should be done. X-ray study will show shadows of stone, or calcification, as well as spina bifida occulta.

Intravenous pyelography is especially useful in children and without danger.

Determination of renal function should always precede cystoscopic examination, since in the cases with lowered function, instrumentation may light up an acute infection. In a child, a palpable tumor in upper abdomen, usually means renal tumor. Uroselectan is of great value in differentiating renal from other abdominal masses. Renal tumor occurs in about one in 2,500 children. A classification of kidney tumors together with the different theories of their etiology is given.

The author reports 17 cases, 14 of which occurred in males. The one constant symptom was enlargement of the abdomen, often first discovered by the family. Hematuria in childhood is uncommon. Metastases usually occur in liver and lungs, and rarely in the opposite kidney.

Tuberculosis in children under 20 is rare. Kretschmer has seen only eight in individuals under 14. Abstracts of 10 cases are given. Cases of relapsing pyelitis should always be suspected of being tuberculous.

Calculi in children are relatively rare, but when present are usually in bladder. The usual symptoms as seen in adults are found.

Pyelitis is by far the most common urinary disease found in children, comprising 34.5 per cent of Kretschmer's series. Poor drainage is the factor most likely to cause recurrence or chronicity. He believes all children running a pyuria for six months should be subjected to close urological study. Acute cases belong to the pediatrist. Many cases of ureteral stricture should be treated surgically.

Congenital anomalies in children are not common. In a series of 4,903 autopsies, by Bugbee and Wollstein, 2.3 per cent anomalies were encountered.

Spina bifida is rare but will often be found as the cause of so-called eneuresis. Laminectomy is indicated when the condition is present.

Obstructions to the outflow of urine may be located any place in the urinary tract from the urethral orifice to meatus, most common of which are tight prepuce, and pin-point meatus. Fibrosis of bladder neck is often found. Hypertrophy of verum montanum may cause marked urinary obstruction.

Diverticulum of the bladder is usually associated with obstruction at the bladder neck. This condition is easily diagnosed by cystogram.

Congenital valves of posterior urethra are occasionally a factor in the production of urinary obstruction.

Case reports of these various lesions are appended. This article is well worth reading especially to the general practitioner.

PEDIATRICS

By John M. Lee, M.D.
Doctors Building, Nashville

The Prognosis of Acute Endocarditis in Childhood. John Lovett Morse, M.D. Amer. Jour. Diseases of Children, October, 1931.

One hundred cases of acute endocarditis seen in children from ten to thirty years before this article was written were studied and followed up by the author. All cases included in the report were seen in their first attacks. At the time of this report, 36 of the patients were dead; 3 were cardiac invalids; 37 were alive and well and had normal hearts; 18 were alive and well but had physical signs of chronic valvular disease; 6 were alive and well, but condition of heart not known.

Rheumatism, either alone or in combination with chorea or tonsillitis, was the apparent cause in 61 per cent of the cases; it was the cause in 67 per cent of the fatal cases and the cases of cardiac invalidity; it was the cause in 66 per cent of the cases living with slightly damaged hearts; it was the cause in 42 per cent of the cases alive and well with normal hearts. Tonsillitis and other respiratory infections were the apparent cause in 12 per cent of the fatal cases, in 23 per cent of the patients alive and well with slightly damaged hearts, and in 36 per cent of those alive and well with normal hearts.

In his summary the author concludes: "The age at the time of the onset of the disease and the intervals elapsing between the onset and the time when the patients were first seen had no apparent influence on the prognosis. In the cases in which rheumatism seemed to be the cause, the results were not so good as in those in which the apparent cause was an infection of the upper respiratory tract. Myocarditis and pericarditis were unfavorable signs. In a large proportion of the fatal cases death occurred early (66 per cent died within four months of the onset of the disease). Recurrences of the rheumatic infections were not as common as is usually believed, and repeated attacks did not always prevent recovery. Only one of the patients who are alive and well has a diastolic mitral murmur. The results apparently depended more on the care that the children received than on any other single factor.

The details of the study are set out in twelve tables.

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PROCEEDINGS OF THE HOUSE OF DELEGATES, NINETY-EIGHTH ANNUAL MEETING, TENNESSEE STATE MEDICAL ASSOCIATION, KNOXVILLE, APRIL 14-16, 1931

TUESDAY AFTERNOON SESSION

APRIL 14, 1931

The opening session of the House of Delegates, held in connection with the Ninety-Eighth Annual Meeting of the Tennessee State Medical Association, held at the Hotel Andrew Johnson, Knoxville, Tennessee, convened at 2:10 o'clock, Dr. E. R. Zemp presiding.

THE SPEAKER: The House will please come to order. We will have the calling of the roll of Delegates.

(The Secretary called the roll.)

THE SECRETARY: Mr. Speaker, that completes the roll call. I might state that all officers and ex-presidents, of course, are automatically qualified as members of the House.

Mr. Speaker, a quorum is present for the transaction of business.

THE SPEAKER: The first thing I want to do is appoint a Credentials Committee and ask them to take up this matter of credentials right away. I shall appoint Dr. Monger, Dr. Cowden and Dr. Britt Burns.

THE SECRETARY: In reference to the names I have just called, I might say that proper certificates of these have been forwarded to the office and I am certifying to the House that these have been qualified by proper certificates from their offices to us, from which I made the roll.

DR. H. B. EVERETT (Memphis): Do I understand that the names of the men you have just called are those who have been seated and out of the way, and that the Credentials Committee will only have to do with what comes in later?

THE SECRETARY: There are other counties that might have matters to deal with. Somebody might want to qualify who has not been elected.

THE SPEAKER: The minutes of the last meeting.

THE SECRETARY: Mr. Speaker, the minutes were published in the December issue of the Journal. The minutes were brought over to the December issue in order to make it nearer this meeting date. If you want me to read the sixty pages I will read them. Otherwise, do you want to act on the minutes as they appeared in the Journal?

THE SPEAKER: What is the pleasure of the House?

DR. TAYLOR (Bedford County): I move adoption of the minutes as appearing in the Journal.

DR. TAYLOR (Shelby County): I second the motion.

(The motion was put to a vote and was carried.)

THE SPEAKER: It has been brought to my attention that probably the next most practical thing to do would be to organize the various grand divisions of the state and for them to elect the members that they want to be placed on the Nominating Committee. We will ask East, West and Middle Tennessee to get busy and do that at this time.

We might take a few minutes' recess for that.

THE SECRETARY: Mr. Speaker, I move that we recess for five minutes to give the various delegates from the respective sections an opportunity to organize in forming the Nominating Committee.

(The motion was regularly seconded, was put to a vote and was carried, and the meeting recessed for five minutes.)

THE SPEAKER: Gentlemen, are your committees ready to report?

I will have the Secretary read them out.

THE SECRETARY: The East Tennessee members selected are: Dr. W. P. Wood, Dr. T. B. Yancy, and Dr. L. E. Dyer. Middle Tennessee: Dr. C. N. Cowden, Dr. B. S. Rhea, and Dr. W. H.

Avery. West Tennessee: Dr. W. B. Burns, Dr. R. M. Little, and Dr. J. R. Thompson.

These committee members will please get together and report to us Thursday morning.

THE SPEAKER: The order of business calls for that matter to be taken up right after the roll call of the meeting Thursday morning.

THE SECRETARY: Mr. Speaker, a man called at my general office some days ago with reference to some work of the National Food Bureau. The man's name is H. T. Corson, of Chicago. I was impressed by the proposition he had to make. He requested the privilege of coming before the House. He had conferred with a number of other doctors throughout the state. I assured him that the House would give his proposition consideration, and I want now to move the appointment of a committee to hear the proposition offered by Mr. Corson, which committee will make recommendation to the House as to what disposition to make of it.

DR. SHIELDS: I second the motion.

THE SPEAKER: You have heard the motion that a committee be appointed to hear Mr. Corson, of Chicago, on this question of food products. What is your pleasure? I think that would save a great deal of time. We don't want him coming before this House taking a lot of our time. If he speaks to this committee, the committee can come back and tell us whether it is worth while or not.

(The question was called for.)

DR. SHIELDS: They may recommend to bring him before the general session.

THE SPEAKER: Whatever they recommend will go.

(The motion to appoint the committee was put to a vote and was carried.)

THE SPEAKER: I will appoint on this committee Dr. R. B. Wood, Dr. L. T. Stem and Dr. W. B. Burns.

THE SECRETARY: By request I wish to offer an amendment to the By-Laws. I offer this at the request of the Liaison Committee.

THE SPEAKER: One minute! Is this presented here for the first time?

THE SECRETARY: Yes, sir. It is presented for the first time. Under the Constitution it has to lay over for further consideration. Do you want to hear it read now?

THE SPEAKER: Yes, sir.

DR. S. R. MILLER (Knoxville): I move the amendment of Article X, Section I, to read "The fiscal year of the Association shall be January 1st to Decemher 31st."

(The Secretary read the proposed amendment to the By-Laws.)

THE SECRETARY: There is the amendment.

THE SPEAKER: The Liaison Committee offers it.

THE SECRETARY: I move the appointment of a committee, Mr. Speaker, to consider this amendment and make recommendations to the House tomorrow.

DR. NEWMAN TAYLOR: I second the motion.

(The motion was put to a vote and was carried.)

THE SPEAKER: I don't believe it would be a bad idea, gentlemen, to have some of those printed so we could study it. I didn't grasp it from just hearing it read here and I don't imagine that you did either.

THE SECRETARY: The Liaison Committee can speak to this committee on it and give their reasons for the recommendation.

THE SPEAKER: If that is satisfactory to the House, all right.

THE SECRETARY: They have to make a report.

THE SPEAKER: Some of us are not quite familiar with it. Who is on the Liaison Committee now?

THE SECRETARY: Drs. J. F. Gallagher, G. R. McSwain and John B. Steele of Chattanooga.

Their reports I have in which they urge this action. Neither one is a member of the House and I was requested to offer the amendment this afternoon so that it could be properly considered and acted upon.

THE SPEAKER: I am going to appoint on that committee Dr. S. R. Miller as Chairman, Dr. Cowden, Dr. Everett and Dr. Richards. They will report back tomorrow morning .

DR. S. R. MILLER (Knoxville): I should like to ask the Secretary if any action has been taken with reference to Article X, Section 1, changing the calendar year. The Board of Trustees recommended that the fiscal year be changed to the calendar year. Was there ever any amendment offered on that? I can't find anything whatever in the transactions of last year or the year before.

THE SECRETARY: Mr. President, you will find that in the report of the Board of Trustees, which was approved. That was at the Jackson meeting.

DR. S. R. MILLER: I move adoption of this amendment. I move the amendment of Article X, Section 1, to read: "The fiscal year of the Association shall be January 1 to December 31."

That is what the Board recommended; that is what the House of Delegates adopted; but no amendment was ever offered. This is an amendment to the Constitution and it has to lay over until next year. We want it so that if any of these questions come up about payment of dues they can be handled right.

THE SPEAKER: We will let that take the regular channel.

Next we will hear the Secretary's report.

(The Secretary read his report.)

SECRETARY'S REPORT FOR THE YEAR 1930 WITH SUPPLEMENTARY REPORT FOR THE FIRST QUARTER OF 1931.

To the House of Delegates of the Tennessee State Medical Association:

I have the honor herewith to submit my report for the year ending December 31, 1930.

A brief statement ofthe activities of the office for the first quarter of 1931 will be made in a supplementary report.

In the fiscal year of 1930 the Association engaged in very heavy expenditures in connection with the celebration of the one hundredth anniversary of its organization and the preparation and publication of a history of the Association. For these reasons the assets of the Association underwent a considerable shrinkage. The following tabulation will give you a definite idea of the shrinkage:

On December 31, 1929, the assets of the Association were as follows:

First mortgage lien notes	$14,500.00
Cash in bank	1,670.01
	$16,170.01
Less balance in defense fund	2,175.03
Net balance	$13,994.95

On December 31, 1930, the assets were as follows:

First mortgage lien notes	$10,000.00
Cash in bank	1,306.27
	$11,306.27
Less defense fund	2,321.34
	$ 8,984.93
Excess of disbursements over receipts	$ 5,010.05

Bills contracted and approved by the Committee on Medical History amounted to $5,206.92. This expenditure is offset by receipts from the sale of book, $609.75, making a net loss on the book of $4,597.17.

This amount does not include all of the loss on the book because the Association engaged in expenditures in connection with the preparation and publication of the book that were not listed in this committee's expenditures. The amount set out here represents the amount spent by the Committee alone.

Our office prepared one chapter of the book at considerable cost.

Our office obtained cuts and photographs—many of which were used in the book but were not charged. Extra clerical help was required.

The extraordinary expenses in connection with the meeting amounted to $1,221.41. This includes such items as hotel expense for out-of-state guests. A very expensive and handsome badge. All the costs connected with the preparation for and staging of the memorial feature. It will be remembered that one hundred slides were shown. It includes the cost of one thousand reprints to each of the distinguished guest speakers. If the Association had not engaged in these extraordinary expenditures our receipts would have exceeded our disbursements by about $1,200.00.

Income

The following is a comparative statement of receipts for the years 1929 and 1930, respectively.

	1929	1930
Dues	$ 7,040.00	$ 6,530.00
Advertising	4,647.83	4,943.74
Interest on investments	795.00	707.83
Net revenue represent-one-half amount collected from exhibit booths		530.00
	$12,482.83	$12,711.57

It will be noted that our income increased in spite of a falling off in dues and in spite of a reduction in the amount of our income from our investments. This increase in revenue is attributable to two sources, namely (a) the directory department of the Journal, and (b) one-half the revenue from the sale of exhibit spaces.

It will be remembered that the House of Delegates took action with reference to these two matters last year and the year before.

General Statement

An impression has been created in the House to the effect that the Association had about $17,000.00 in cash and investments. This was erroneous. The Association never did own net assets in that amount.

It must be remembered that on March 31st, the assets of the Association reach their peak because a large portion of the dues for the calendar year are collected just prior to March 31, so the fact that the audit as of March 31 showed a balance of $17,000.00 did not mean that the net assets were $17,000.00. The net worth of the Association is determined by deducting operating expenses for the balance of the year. The figures I have submitted above are figures as to the assets of the Association at the low point, or the end of the calendar year. They are, therefore, comparable one with the other.

Our Association is one of three in the Union that still operate on dues of $4.00 per year. The average for the rest of the states would be about $10.00 per year. Some have dues as high as $25.00 per year. There is not another one of the states with dues under $5.00 per year that carries on activities such as we carry on.

I make mention of these facts to show the necessity for frugality in the handling of the finances of the Association.

My policy has been to increase our revenues in every way possible to take care of the increasing costs of operation without increasing the dues of members.

An analysis of the complete audit of the books for the calendar year 1930 which appears as a part of the Treasurer's report, will show the extent to which we are succeeding.

Journal

Each issue of the Journal was mailed on time. Each issue contained its full sixty-four pages and some issues more than sixty-four pages.

It is printed on excellent paper. The printing is well done. A considerable portion of the printing is in small type, particularly the abstracts and the minutes of the meeting.

All these improvements involve an added cost, but these added costs have been met by an increase in revenue from advertising and members of the Association have not felt these costs.

The editorial policy you are doubtless familiar with. Some of our editorial have evoked some commendation and none insofar as I know have evoked criticism.

We have run a large number of excellent scientific articles, many of which were extensively illustrated. These illustrations add to the cost of publication. They also add to the value of the scientific articles. The cost of cuts alone for last year amounted to $343.65.

We received more manuscripts for publication than we could publish.

We have made a diligent effort to allot a logical portion of the space in the Journal to scientific matter—to the various specialties, and to the various geographic divisions of the state. A careful check-up will reveal that each geographic division of the state and each specialty in medicine has shared in a logical manner this space.

Organization

Our organization as a whole has remained about the same; 1,640 members were enrolled on December 31, 1930. This was some larger (34) than the enrollment for the previous year. The number of component units has remained about the same.

We have continued to encourage the combination of smaller units into larger units when practicable and our observation from the benefits to be derived from such combinations leads me to urge the House to take such steps by amendment to the constitution and by-laws, if necessary, as will affect a reduction in the number of component units to about twenty-five outside of the four large counties of the state. This will leave an average of about three and one-half counties to the unit. One of the best units in the state is a component unit composed of five counties.

There are several three-county combinations already functioning for scientific purposes, but local counties hesitate to surrender their charters and their representation in the House of Delegates until all other local counties do likewise. Our office, of course, can do nothing more than encourage in every way we can such steps.

This is the most important single step that we can take to improve our organization from the standpoint of the functioning of local units and from the standpoint of the functioning of the state organization.

I need not remind you of the urgent need at the present time for a well organized profession of medicine that can be called into action on a moment's notice. We simply must do this.

In conclusion I wish to submit the following recommendations:

It is recommended that the House of Delegates instruct the Secretary-Editor to publish the actions taken by the House of Delegates and omit from publication in the Journal all the discussions which take place on the floor.

The reason for this recommendation is as follows: You will recognize that the minutes of the last session of the House occupied one entire issue of the Journal. It was sixteen pages oversize and set in small type. The specific action taken is often buried in this extensive discussion. Scientific articles go unpublished on account of the lack of space.

The American Medical Association reports the action taken in the House of Delegates but does not reproduce all the discussions on the floor.

We would keep on file in the office a complete transcript of all the discussions, but we would not publish them.

The minutes would show something like the following:

After a free discussion by the following members the following action was taken.

There will be published in the Journal all the reports of officers, resolutions, and introductions. In fact all actions taken by the Association.

In conclusion I wish to acknowledge the hearty cooperation of the various officers of the State Association and the officers of component units throughout the state.

Respectfully,
H. H. SHOULDERS,
Secretary-Editor.

P. S.—Our financial operations since December 31, 1930, are as follows :

Receipts	$ 7,112.96
Disbursements	3,202.44
	$ 3,910.52

Cash in bank	1,306.27
	$ 5,216.79
First mortgage lien notes	10,000.00
	$15,216.79

THE SECRETARY: In reference to the publication, I would not take it upon myself to edit the minutes of this House by eliminating anybody's discussion. The minutes as they have appeared were the minutes as taken by the reporter. If we eliminate the discussions and publish only the actions taken, for example, on the amendment that was offered to the By-Laws, or the amendment offered to the Constitution by Dr. Miller, the minutes of the meeting will, of course, be more easily read. We will develop a more definite understanding and I don't see that the elimination of discussions will injure the minutes.

THE SPEAKER: Gentlemen, you have heard the report. What shall we do with it?

DR. W. H. AVERY: I move adoption of the report as read.

(The motion was regularly seconded.)

DR. H. L. FANCHER (Chattanooga): Mr. Secretary, do you mean that in printing the actions taken the name of the man who makes the motion and the one who seconds the motion would be shown? Do you want to print those names?

THE SECRETARY: Oh, yes. The authors of motions, certainly. We would eliminate the discussion only.

DR. F. L. ROBERTS: Giving the names of those discussors?

THE SECRETARY: Yes. The discussions will be kept on file. The complete minutes will be kept in the office, if anybody wants to know what his discussion was.

THE SPEAKER: Is there any further discussion.

THE SECRETARY: I should like to say that I wrote about this matter to the Trustees. I should like to have Dr. Wood say a few words about it. I made mention of the fact that we had many papers offered. One requested by Dr. Fancher will appear in this issue. We have more applications for space in the Journal than we can accommodate. I do this principally to conserve space in the Journal and to give more room for scientific articles.

DR. R. B. WOOD (Knoxville): At the meeting of the Board of Trustees I was of the opinion that Dr. Shoulders' recommendation was quite a good one. For that reason I said nothing when the motion was made that the report be adopted as read. I believe we could conserve quite a bit of space, as Dr. Shoulders outlined, and give more space to scientific articles with the elimination of quite useless discussion that comes up here and takes not only our time in here but space in the Journal as well. I am heartily in favor of eliminating all unnecessary discussion.

THE SPEAKER: Gentlemen, are you ready for the question?

(The question was put to a vote and was carried.)

THE SPEAKER: At this time, gentlemen, we don't seem to be pressed for business. Dr. Cowden has a matter to present and at this time I will recognize him.

DR. C. N. COWDEN (Nashville): Mr. Speaker and Gentlemen: I want to introduce a resolution and have our Speaker set a time for its discussion. I want the cool, calm judgment of the House here on this matter. It is a short resolution and I should like the Speaker to set the time that we can come together and discuss this.

"Whereas, The sale of the History of the Tennessee State Medical Association has been disappointing in the number of sales; and

"Whereas, Many of the members think the volume should have been distributed free of cost to them, being paid for out of the general funds of the Association; and

"Whereas, To give each member a copy would cost about ________ dollars (which I will furnish you tomorrow): be it

"RESOLVED, That the Committee be instructed to have published enough additional copies to supply each member of the Association with one, and they be given them free of cost."

This is signed by every member of the Committee except one. Dr. Sheddan is not here and I expected to see him. This is the committee that was appointed to edit the History: W. H. Witt, W. B. Bilbro, S. R. Miller, C. N. Cowden. Dr. Sheddan wasn't for it last year but I expected to get him here. Dr. Savage died.

THE SPEAKER: I shall appoint that special committee a bit later when I see what is on the calendar for tomorrow.

We who meet in the House of Delegates are barred almost entirely from the general session. I was wondering why we couldn't meet a little earlier in the morning while it is nice and cool and fresh and get some of this business out of our systems so that we can get down there and enjoy our meeting. I would entertain a motion to set the hour up as early as anybody thinks he can get here. Nine o'clock is the time they meet downstairs.

DR. H. B. EVERETT (Memphis): What is the time we are supposed to meet here?

THE SPEAKER: At the same time.

DR. F. L. ROBERTS: I move that we meet at eight o''clock in the morning.

(The motion was regularly seconded.)

THE SPEAKER: You have heard the motion that we meet at eight o''clock tomorrow morning instead of nine o'clock.

DR. EVERETT: Make that eight o'clock tomorrow morning and thereafter until adjournment.

(The motion was put to a vote and was carried.)

THE SPEAKER: We will entertain a motion to have our other meetings at one o'clock instead of two.

I will entertain a motion to set the afternoon sessions at one o''clock instead of two o'clock.

DR. W. H. AVERY: I move that the time of meeting of this House of Delegates be made one o'clock instead of two o'clock, as at present.

DR. ROBERTS: I second the motion.

(The motion was put to a vote and was carried.)

THE SPEAKER: We will now hear from Dr. Gallagher on the Liaison Committee. It is a kind of intermediate committee, a sort of buffer committee.

Dr. Gallagher, please state first what the object of this committee is, where it was appointed, and so on.

DR. J. F. GALLAGHER (Nashville): It is in this report.

(Dr. Gallagher read the report of the Liaison Committee.)

REPORT OF THE LIAISON COMMITTEE

In the record of the proceedings of the House of Delegates of the State Medical Association at the meeting held in Nashville in April, 1928, and published in the April number of the State Journal, may be found the following in the report of the Committee on Public Health:

> "Your Committee further finds there is no official means of approach between the health agencies of the State and the State Medical Society. The president, vice-presidents, secretary, nor even the councillors have authority to speak for the organized profession, and in view of this condition we would therefore recommend that the House of Delegates create a liaison committee composed of three representative men, one from each grand division of the state, clothed with the authority to counsel with the health agencies and speak with authority foi the State Medical Association upon any subject of public health and preventive medicine which alike concern the public health agencies and the profession as a whole, especially policies and practice in the State's endeavor to control contagious and communicable diseases to the end that there may be maintained a mutual understanding and a cooperation between the two in handling the questions which are getting so much attention from the people as a whole."

It was moved that the report be adopted, which motion was seconded and carried. Thus the Liaison Committee of the Association came into being.

It will be noted from the above excerpt that nothing was said as to how this committee should be formed nor for the period of the committee's incumbency. Diligent search of the Proceedings of the House of Delegates, as published in the Journal, of this meeting (1928), as well as those of the sessions of 1929 and 1930, fails to reveal any reference to the Liaison Committee save a slight allusion thereto in the reports of the Committee on Public Health and the calls for a report of the Committee; but there is no record of any report ever having been made.

On page sixteen of the Constitution and By-Laws of the State Association (approved at the April meeting, 1928, and published in the Journal in June of the same year), the same being Chapter 8, Section 1, appears the following footnote:

> "The House of Delegates passed a resolution endorsing a report of the Public Health Committee, which report requested the APPOINTMENT BY THE PRESIDENT (sie) of a Liaison Committee . . ."

It is highly probable that the Presidents and Secretary of the Association, while taking note of the aforementioned omissions, took it for granted that it was the intent of the House of Delegates that this Committee should be appointed by the President, though not specifically stated, in as much as the President appoints all committees not provided for in the Constitution and By-Laws or by action of the House of Delegates.

Your Committee is of the opinion that an actively functioning Liaison Committee, composed of members with vision and with an understanding of the rapidly changing conditions of the practice of medicine—economic, social and scientific—can be of very great service to the profession as well as to the health agencies of the state. In so far as the present Committee is concerned, the only matters brought to its attention were those originating in the State Department of Health. Either through apathy, or ignorance of the existence of a Liaison Committee, nothing has been called to the attention of the Committee by the profession at large. Your Committee will offer for your consideration an amendment to the By-Laws which will include the method of appointing this committee, enlarging its membership, determining the length of office of its members and defining its duties.

Under date of October 6, 1930, the Secretary of the Association notified us of our appointment as members of the Liaison Committee. The personnel of this Committee, together with that of the other Committees, was published in the State Journal in the November, 1930, issue.

The only matter coming to the attention of the Committee was that of the method of, or standard for, the selection as "designated physicians" for the care of crippled children. The facts developed were these: At the regular session of the Legislature in 1929, $25,000.00 was appropriated to the State Department of Institutions for the care of crippled children; Dr. E. L. Bishop, Commissioner of Health, was charged with the duty of selecting proper institutions for hospitalizing these individuals and the appointment of physicians to care for them, as well as to use his field force to seek out the crippled children and have them come at a specified time and at a designated place for examination by the "designated physicians". The method employed by Dr. Bishop in selecting the "designated physicians" was to use the latest edition of the directory of the American Medical Association and every physician found listed in the directory in the state as an Orthopedist was so designated. It developed that two physicians, commonly known and listed as general surgeons (one from East and one from West Tennessee) applied for appointment as "designated physicians" to care for these crippled children. The Committee ruled that only those who were known as Orthopedic Surgeons should receive an appointment.

Respectfully submitted,
JOHN B. STEELE,
GEORGE R. McSWAIN,
J. F. GALLAGHER, Chairman.

DR. J. F. GALLAGHER: A copy of this report, together with the proposed amendment, which has already been introduced, was mailed to Dr. J. B. Steele of Chattanooga and Dr. George R. McSwain of Paris. Dr. McSwain replied concurring in this report. Dr. Steele replied, but was noncommittal. In fact, he states that he was away from town and had been in Chicago electing a Democrat. (Laughter). I don't know whether he has a minority report or not, but I judge that he will concur because he has concurred in all the actions of the committee that have been brought to his attention, and all matters that have been brought to my attention have been brought to his attention. (Applause).

THE SPEAKER: Gentlemen, this is offered as an explanation of the amendment that has already been presented. What shall we do with it?

DR. W. B. BURNS (Memphis): I move that the report be received and filed. I suppose the committee shall be continued. I wouldn't ask for any dismissal or discharge of the committee.

(The motion was regularly seconded.)

DR. J. F. GALLAGHER (Nashville): That isn't exactly apropos.

THE SPEAKER: Without objection the committee's report will be received. You understand we are not to take any action on the amendment today. That lays over until tomorrow.

DR. GALLAGHER: If I may have the floor, I should like to make my explanation to all of you as I am not a member of the House. I don't want to be misunderstood that I am coming back for the continuance of the committee. I don't want to be continued. Don't misunderstand me on that. I have work enough with this.

I think that this matter and the report (I may be over-enthusiastic in the matter) is probably the most important thing that this House of Delegates will consider at this meeting, because in widening the personnel of the committee, defining its powers, extending its offices to the profession as well as to the State Department of Health, it can, if properly manned, serve a tremendous influence both with the profession and with our State Department of Health. You will notice in the amendment to the By-Laws that the committee is stabilized, it is enlarged. Heretofore the committees have been appointed each year by the President and no definite policies could be formulated. The profession should be told, and I am sure that Dr. Shoulders will tell the profession, on these complaints in regard to public health matters that have been circulated throughout the state, that the committee will be open to the suggestions and criticisms of the activities of the Board of Health, and by the same token the Board of Health shall receive help from this very important committee. I have heard that there is a great deal of criticism on the part of some of the profession in regard to the activities of the State Board of Health, but mark you, I have only heard them. Those who have come to me I have asked that they present it to me in a formal way and I would take it up with the Board of Health. But they refused to do it. I don't claim that the Board of Health is infallible, nor anybody connected with it. I think probably they have made mistakes, and, being human, will continue to make mistakes. On the other hand, I think that we as professional men should clean up our Augean stables first. If I am certain of anything I am certain that Dr. Bishop has made a sincere effort to do the right thing. He is still willing to do the right thing. If anything isn't going right in any part of the state he will be glad to correct it. You must remember that I have no special plea for Dr. Bishop, other than I think he is an honest gentleman and a very efficient state health officer. In fact, I have been told that no less a person than Hugh Cummings said that Tennessee now ranks second in the United States in regard to its management of public health matters. But be that as it may, he is an executive director. He can't be all over the state at one time. There is no doubt in my mind, though

I do not have any specific instance, that some of his men, some of his nurses, in the fullness of their enthusiasm, have perhaps transgressed the line of their duty and trespassed on the general practitioner. If this occurs, to get back to my original thesis, this committee will receive those complaints as outlined in there, in writing. If a man has a just complaint he shouldn't have any objection to writing it down and saying "This is what has happened." Then if that has happened, that committee would take it up with the State Board of Health.

I am speaking of general policies. I am not speaking of things like I have been importuned to do, that of recommending one of these men who is generally known as a general surgeon to become a designated physician in regard to certain treatments. That is not the committee's affair.

We set down what we thought to be a broad, general statement of the policies of the committee in suggesting matters to the State Board of Health.

Inasmuch as my report deals specifically with only crippled children's work, I will tell you what has transpired in the legislature.

THE SPEAKER: This amendment has already been referred to a committee and if they need any further information in addition to what is in this report here, they will call Dr. Gallagher and his committee before them, and report back to us tomorrow.

THE SECRETARY: Since you have heard something about it you might hear a little more. The original amendment had its origin in a conference between Dr. Richards and myself before 1928. Here was the reason: Dr. Bishop or some other man from his office would come in and say, "What do you think about this," or "What do you think about that?" I was unwilling to assume the position of representing the entire profession of Tennessee in its attitude on any policy. I could give them a personal opinion and it had to end there. In this conference the suggestion was made that a committee be appointed to study those specific questions. Its duty would be definite. One duty of that committee would be to smooth out these conflicting claims between the members of the profession on the one hand and the members of the Department of Health on the other, and to endeavor to work out from time to time revisions of policies that would make the two work in harmony. That was the idea. This amendment offered goes a step further in strengthening that committee, in enlarging that committee, in giving it a status, a permanent place in the Constitution and By-Laws, and in another step, in making it continuous. That is, the committee will not change from year to year and have a new committee next year to consider the unfinished business of the committee of the year before. For example, if the committee that functioned last year is not reappointed by the incoming President, you have a new committee. Then that committee must inform itself really on the actions that have been taken over the previous two or three years in order to function at all. So for that reason I think the committee has wisely written into the amendment a provision whereby the committee will be almost continuous, in that they are elected for five years and one man is appointed each year.

I just wanted to give you that statement concerning the origin of that committee, and I think Dr. Richards offered the resolution creating it.

THE SPEAKER: I think we will stop this discussion because we have a committee appointed and we can't handle it until this committee comes back with a report. Then there will be plenty of time. That's why we appointed the committee. We will ask that committee to get busy and report back to us tomorrow morning. Then you can discuss it as long as you like. Now it is out of order.

Can we have some other committee reports? We should like to get rid of as many as possible this afternoon.

THE SECRETARY: The Medical Defense Committee is ready to report now.

THE SPEAKER: We will hear from the Medical Defense Committee, Dr. S. R. Miller, Chairman.

(Dr. S. R. Miller read the report of the Medical Defense Committee, giving a short verbal explanation that the reporter was instructed to omit.)

REPORT OF MEDICAL DEFENSE COMMITTEE

Gentlemen: The Medical Defense Committee begs to herewith submit the Seventeenth Annual Report for the calendar year, 1930.

At the beginning of the year, we had one suit pending in the Supreme Court, and sixteen pending in the lower court, and two potential non-suits.

In 1930 nineteen suits were filed. Four threatened suits were handled.

Two suits were refused defense—one had not paid Medical Defense Fee, and one was for alleged assault, and not malpractice.

The seventeen suits from last year, and the nineteen accepted this year, makes thirty-six suits for the year, exclusive of the non-suits not refiled, the four threats and two refused—a total of forty-four handled during the year.

The suit in the Supreme Court was affirmed, and the defendant doctor had to pay $3,000.00 judgment. Three suits were won in the lower court. One non-suit was revived. Two reported suits proved to be only a threat.

Five suits were thrown out of court—for some reason—one threat was compromised by the defendant's insurance company.

Five non-suits were not refiled in the legal time. One suit resulted in a mistrial, and is now pending. One suit was withdrawn by the plaintiff.

Four of the threats are now barred by Statute of Limitation.

One threat is yet a potential suit.

On January 1st, twenty-two suits, including the one that had a mistrial, and one non-suit are pending. We have no suits pending in the higher courts.

We also have a potential non-suit, and a potential threat.

The Treasurer's report shows the receipts and disbursements, and our balance.

Respectfully,
S. R. MILLER, Chairman;
H. H. SHOULDERS.

THE SECRETARY: Mr. Speaker, may I claim extenuating circumstances? In our failure to list this committee among the Standing Committees of the Association, it was purely an oversight that it was omitted. But it really didn't matter because this House of Delegates and every doctor in the state knows that Dr. Miller runs that committee. I am a member of it, but he runs it. It just didn't need to be in there. You are in the limelight all you need to be. (Laughter and applause.)

THE SPEAKER: What shall we do with this report?

DR. RICHARDS: I move it be accepted and the committee continued, and that we publish that they are reappointed.

(The motion was seconded and carried).

THE SECRETARY: That committee is supposed to be elected by the House.

THE SPEAKER: They have been elected unanimously.

Mr. Secretary, what further business have we?

THE SECRETARY: The regular order.

THE SPEAKER: Are any other committees ready to report?

DR. EVERETT: The Delegates to the A. M. A. will have their report ready tomorrow, sir.

THE SPEAKER: Are any other committees present this afternoon that are now ready to report?

There doesn't' seem to be any, Mr. Secretary.

Immediately following the Treasurer's report, we will take up Dr. Cowden's motion.

DR. S. R. MILLER: Before we adjourn I should like to ask the Secretary if there are any matters matter that I have to be referred to the Council want to have a meeting of the Council after this meeting, too.

THE SECRETARY: Mr. President, the only matter that I have to be referred to the Council is the matter brought up by Dr. Fox of Greene County. I understand that Dr. Fox has already carried that directly to you.

DR. MILLER: Some men were asked to be here.

THE SECRETARY: Delegates will go directly to the Council themselves with that matter. They haven't been brought to me. Dr. Fox did but I asked that he refer it directly to the Council, of which he is a member.

DR. MILLER: If anybody has anything to bring before the Council they ought to do it right away.

THE SPEAKER: If any of them have any grievances if they will report to the Council their grievances will be handled in the usual way. If there is no other business this afternoon we will adjourn until eight o'clock in the morning.

(The meeting adjourned at three-fifty o'clock).

Wednesday Morning Session

April 15, 1931

(The meeting convened at eight-ten o'clock, Dr. E. R. Zemp, presiding.)

THE SPEAKER: The House will please come to order. The Secretary is not here but I take it we have a quorum. We will just go ahead with the reports of committees. We have a report from the Committee on Cost of Medical Care, by Dr. K. S. Howlett.

(Dr. Howlett presented the report of the Committee on Cost of Medical Care).

(This report was published in the June issue, page 227.)

DR. HOWLETT: Mr. Chairman, as I stated probably in the beginning, I wanted to submit this report not to give you my ideas as to final conclusions that this committee may arrive at, but rather to get yours. I am a member of that committee as representative of rural doctors. I certainly do not want to do anything that would antagonize or meet with the disapproval of the rank and file of the members of the Tennessee State Medical Association. I wanted to present this so that it could be considered and so that you could give me, not now, because we won't have time for any discussion of this paper, but at any time during the meeting or later by letter, your own ideas and conclusions with regard to what might be done by this Committee on the Cost of Medical Care. (Applause).

THE SPEAKER: The report of that committee will just stand as is because I am sure none of us knows what the report is. I should like to know what the committee recommends.

DR. HOWLETT: We really haven't arrived at any conclusions because we have been asked to keep an open mind until all the facts are assembled. There will probably be no definite conclusions arrived at by the members with regard to a good many of these suggestions until 1932.

THE SPEAKER: We will just continue this committee unless there is some objection.

DR. W. B. BURNS (Memphis): The committee on this food proposition is ready to report.

THE SPEAKER: State what the proposition is.

DR. BURNS: This another one of the Liaison Committee affairs that we have been hearing a lot about.

The National Food Bureau is working along with some of the state medical societies and with the knowledge and consent of the American Medical Association. We tell from the correspondence that he has had with Dr. Olin West and with Dr. Cramp that the work is proper. We, in order to save time, agreed to read the resolution. We will state that certain states have already passed this resolution: Oklahoma, Nevada, Washington, Kentucky, California, Oregon, Maryland, Indiana, Pennsylvania, Virginia, Nebraska, Kansas, Minnesota, Illinois, Michigan, Ohio and Louisiana. Louisiana passed it just last week or this week, whenever they met. The resolution is not very long. It is here in duplicate so that we can keep a copy of it. The President and Secretary can sign it if this body so designates.

(Dr. Burns read the proposed resolution).

WHEREAS, Much misinformation is promulgated today on the question of diets, etc., causing the introduction in the American diet—food fads.

Very few of these fad foods can take the place of the older staple foods, good meat, dairy products, green vegetables, fruits and the better grades of bread.

Any balanced diet should contain animal protein, fruits, vegetables, especially the leafy vegetables, which will insure adequate vitamin and mineral salt content, digestible fat such as butter-fat, and sufficient of the digestible carbohydrates to afford readily available energy.

Carbohydrates, including sugars and starches, but especially starches, furnish the American public their main fuel for energy, the quantity varying with the amount of physical activities which the individual expends. Much of the starch should be supplied by the most available and easily digestible food stuffs, of which white flour is an excellent example.

The allegation that white bread, meat or any other staple food when employed in mixed diet is responsible for certain grave illnesses, is not supported by scientific facts.

THEREFORE, BE IT RESOLVED THAT, We desire in the public interest, to place on record that in our opinion:

1. The exaggerated claims for various fad foods are entirely unwarranted by scientific evidence or practical experience; and the advertising and other propaganda furthering their substitution for the older articles of diet should be condemned.

2. The danger of nutritional deficiences has been grossly exaggerated. No one food is a perfect food; but a diet consisting of dairy products (especially milk), leafy vegetables, fruits, meats and easily digested starches for heat and energy, furnishes an excess of all food factors necessary for proper growth and nutrition and resistance to disease.

3. Any variation from normal diet should only be prescribed by a properly trained physician after a careful study of the dietary requirements of the individual seeking advice.

TENNESSEE STATE MEDICAL ASS'N,
H. H. Shoulders, Secretary.

Adopted at Knoxville, Tennessee,
this________day of April, 1931.

DR. BURNS: We recommend the adoption of the resolution.

DR. L. T. STEM (Chattanooga): I second the motion.

DR. J. A. McINTOSH (Memphis): It seems to me that the food fads should be more definitely defined than this report would give us.

DR. R. B. WOOD (Knoxville): Out of consideration to Mr. Corson, who brought this resolution up before the committee, we may say that he has been working with the National Food Bureau in connection with it, with the consent of Dr. Camp and Dr. Olin West, who O.K. this fellow, as a means of combating all food fads. It is not aimed at any particular organization. This bureau has investigated many different cults, sanatologists and McFadden's food men. I forget what organization he represents, but it is not, as I say, directed at any particular cult so far as we know. It seems that with the consent and the backing of the American Medical Association, we more or less have to accept the fact that this is a legitimate thing. I believe from the number of different medical associations and state associations that have adopted this already, it would not be out of line for us also to do this.

DR. L. T. STEM (Chattanooga): When this man came to see me (of course, you know we have many seeing us with things that they might want, probably from a personal viewpoint), I took it upon myself to write both Dr. Cramp and Dr. Olin West. He also had this literature from the American Medical Association, but how did I know it was authentic? I didn't take his word for it and wrote to them about it. I had a letter in reply saying that this man's work was O.K. in every way, and Dr. Cramp sent me an identical copy of this resolution as has been passed by these other state organizations, and said that that was the copy that had been passed.

This is, as the Doctor has suggested, not directed at any one food fad but is just to let the public in general know that when these cults come out with these wonderful food things that cure all diseases most of them are fakes, and if they need a diet they need to see the doctor. That is the main thing about the proposition. As to specifying any particular fad, there are so many of them in this country that I think that would be probably out of the question.

It seems to me that this covers the field sufficiently, as this is the resolution as has been passed, so Dr. Cramp tells us, by all these other organizations.

DR. H. L. FANCHER (Chattanooga): Mr. Speaker, the question of fighting any special food fad did not appear to me in the resolution, but having seen a great many advertisements of white bread bakeries and dairy products that have used this same material as advertisements, it makes me suspicious that there is a bakery and a dairy interest behind it all.

MR. H. T. CORSON (National Food Bureau, Chicago): I might say that there is not a bakery in the United States contributing to the National Food Bureau, nor is there a dairy. It is supported only by the flour mills of the United States. Not a bakery in the country contributes to the National Food Bureau.

DR. FANCHER: That is about the same thing.

THE SPEAKER: Are you ready for the question? All in favor of adopting the resolution as presented by the committee will say aye; opposed, no. It is so ordered. The Secretary will sign it.

Are there any other committees ready to report this morning? We will hear from Dr. S. R. Miller on the amendment to the By-Laws.

DR. S. R. MILLER (Knoxville): The committee to whom was referred the amendment by the Liaison Committee recommends the adoption of this amendment. We find nothing wrong with it and we think that it may do a great deal of good toward harmonizing medical interests of the state.

THE SPEAKER: Will you please read the amendment?

DR. MILLER: Mr. Secretary, will you read it?

(The Secretary read the proposed amendment to the By-Laws).

PROPOSED AMENDMENT TO THE BY-LAWS

Be It Resolved, That Chapter VIII, Section 1, be amended so as to add "A Liaison Committee."

Be It Further Resolved, That Chapter VIII, Section 11, be changed so as to read " Section 12."

Be It Further Resolved, That Section 11 be inserted in Chapter VIII to read as follows:

The Liaison Committee shall consist of five members, to be appointed by the President of the Association and who shall name (one member) Chairman of the Committee for the period of the appointee's term of office. At least one member shall be from each grand division of the state. One member shall be appointed for a period of five years; one for four years; one for three years; one for two years, and one for one year. Thereafter, one member shall be appointed annually for a period of five years.

It shall be the duty of this committee to confer with the officials of the Department of Health of the State in matters of policy affecting the profession of the state; and it shall be the further duty of this committee to confer with any member or members of this Association in matters concerning the activities of the Department of Health of the State. Provided, that all matters over which this committee shall have jurisdiction shall be presented to the Committee, through its Chairman, in writing.

It shall be the duty of the Committee to make a detailed annual report to the House of Delegates of its activities; said report being subject to review by the House of Delegates. In the interval between the annual meetings of the House of Delegates, the action of this Committee by a majority vote shall be final.

In the event of a vacancy in the membership of the Committee by any cause, said vacancy shall be filled by appointment by the President, said appointee assuming the position on the Committee for the unexpired term of the member whom he succeeds.

DR. MILLER: Mr. Chairman, it is very important that we have the right men on this committee, and of course it is important that the Chairman of the committee be in close proximity to Nashville where the heads of the department of health are. I just want to call the attention of the House as to which President will appoint this committee, whether the outgoing President or the incoming President. My personal opinion is that the outgoing President should appoint this committee so that he can announce it by or before the time of election of the President. We don't have any idea as to who the next President is going to be, but Dr. McElroy is familiar with the positions of the state. I think the Speaker of the House should confer with the President in order to get an A-1 first committee. After that it will not be so hard. That is my personal opinion. That is not in the committee's report because we didn't go into that. Everybody was in too big a hurry for that.

DR. J. P. TAYLOR: I notice that the transactions of the committee shall be reviewed by the House of Delegates. Is that right?

THE SECRETARY: Yes.

DR. J. P. TAYLOR: But in the interim the action of that committee is final. That seems to be a conflict, in my estimation. Why review an action taken that is final? I don't understand that. That is an apparent conflict there, in my mind.

THE SPEAKER: I take it that simply gives the committee power to act during the year, but no committee's action is absolute. Final action must be by the House of Delegates. We could hire or fire our President or anybody else.

DR. J. P. TAYLOR: You could only then prevent a recurrence of those errors, but you couldn't correct the errors that had been committed.

THE SPEAKER: There is no way to do that unless we meet every week or something of that kind.

I think the committee should have power to act, though, because it would be an impotent committee if it didn't.

DR. NICHOLS: I think Dr. Miller is entirely wrong on the appointment of the committee. This committee must serve under the incoming President and does not serve whatsoever under the outgoing President. I think the committee would be in harmony with the incoming President and would do much better work than if appointed by the President who is going out of office.

THE SPEAKER: Unless that is offered as an amendment to the resolution it is out of order. Anybody can offer an amendment to the resolution if he wants to put it in.

DR. MILLER: I move adoption of this amendment to the By-Laws.

THE SPEAKER: Are you ready to vote on the question?

DR. STEM: I want to speak for a moment on the question of this committee. I think that certainly this committee will have a wonderful function if they really can function. Dr. Joe Gallagher said yesterday that there had been rumors of dissatisfaction over the state with regard to the state health department, but nobody ever brought any stated facts as to what those things were. I have heard those things and I have heard quite a few things stated as facts. I am going to tell you some few of them here this morning because I think this body ought to talk about those things and not get out and talk to one another in the corner and then not have nerve enough to get up here and say something about them at the meeting.

In the first place, there is too much free work being done in the laboratories for people who can afford to pay. That is, Wassermans, stools, urines and all kinds of laboratory work is being done by state laboratories for people who are well able to pay the men who have private laboratories. Of course, in many of the health units there is too much being given to people who are very well able to pay for typhoid, toxin anti-toxin and smallpox vaccinations. Those are just some of the things.

A few years ago we adopted the unit system in Hamilton County and applied to the state health department for men competent to take care of those things. They told us that these men should be trained for this particular work. We had sent to us Dr. Critten, a cousin of Dr. Bishop, and Dr. Crabtree, in charge of the city health department, and Dr. Dennis in charge of the county health department.

We supported every measure that they asked for in our local county society. Finally, when the change of politics came around, of course, these politicians had to play politics. They appealed to us to offset those things on the question of cost and expense of these things. We had a committee appointed from our society that investigated numerous other counties and city units. They found that these were being conducted as economically as any you would be able to find anywhere and probably as efficiently as any you could find anywhere. But that didn't please the politicians. They had to kick these fellows out to put in power some of their henchmen. According to the state health department, we had nobody in our local organization who had had the training sufficient to take on this work. Dr. Bishop informed us that if we didn't support him to the limit and did not endorse these local men he himself would never recognize them and therefore we wouldn't get state aid or federal aid. Well, these men were appointed finally, and our committee refused to endorse them. It went on that way for about a month. Then finally some of the politicians visited Nashville. What they did nobody knows. The next day they came back and said they thought Hamilton County would soon have aid from the state and federal government because they thought they would soon be recognized by the state health department, and the next day the recognition came.

Before that time Dr. Bishop had visited our county society frequently. Since that time he has never been there. Why, we don't know. We have invited him numerous times.

This just gives you food for thought. Certainly, if this committee functions rightly it can do some wonderful work.

One other thing. The state health people say that they have no control over the local health units, for instance, a county physician who has his local nurses. In our county and city the nurses act as truant officers for the schools. Although we have truant officers, if some child is out of school he is reported to the health department. The nurse visits the home to see why he is not in school. If he is sick frequently she prescribes for him for a cold. Or she will give him something for pinkeye or she will give him something for the itch. Maybe later on, if something happens, she will call the doctor in.

He will say, "What have you been doing?"

"The nurse has been taking care of him."

"What nurse?"

"The school nurse."

That is happening quite a number of times, not only with myself but with many other men. Certainly it is time that some steps should be taken with regard to that certain condition.

I probably am foolish for bringing up such a matter here. You talk about it in corners but you never say anything about it here, and I think now is the time for saying something about it. (Applause).

THE SPEAKER: Your remarks were very timely, Doctor.

DR. R. H. MONGER (Knoxville): A few months ago the doctors, in East Tennessee (I don't know whether they did in other sections of the state) received a full-page letter from the public health department urging the doctors to send all their work to the state laboratories, regardless of whether the patient were poor or rich. They enumerated all the various work that could be done in the laboratories. As a reaction to this letter, a few months later, last year, there was a committee appointed by the Knox County Medical Society to investigate the local laboratory here to see if some definite steps could be taken to get a better understanding as to why this work should be investigated, that is, to find out whether the work that was coming in there was for people who were able to pay for it. This committee met with the officials here several times, but the records were more or less kept sealed and nothing was ever found out about it.

I can tell you of an instance I know of, where it involved the cashier of our leading bank in the city of Knoxville. The laboratory work on his son was done by the city laboratory. A few months ago the public health department went into the Aluminum Company of America and did Wassermans on every employe there, from the president down. It was a granted fact that several of the employes might not have been able to pay for the work, but if the executives of a company of that size are not able to pay, then I should like to ask who is.

THE SPEAKER: Didn't they also do the laboratory work for all the quacks and advertising men until we kicked on it?

DR. MONGER: We took that up and got that stopped.

DR. STEM: One other thing. We had this happen last fall in Chattanooga. The county health man was giving typhoid, toxin anti-toxin and smallpox vaccination all at one sitting. Some of our patients came to us as family physicians and said, "Doctor, they are going to be at the school today to give toxin anti-toxin, or diphtheria vaccinations (as they described it). They are to give the typhoid in one arm and the diphtheria in the other arm at the same time. What do you think about it?"

"Well," I said, "all of them are all right, but I believe I would just have my child take one and when they finish with that they can give the other."

Somewhat to my surprise, a little later, this thing came up again. I had thought that it was probably directed at me, and yet the county health man is a personal friend of mine. In fact, I have taken care of his family frequently when they were sick. The Chattanooga Times came out with a great, streaming headline: "Doctors of Hamilton County Are to Be Written Up in Paper. County Health Officer and County Physician, (Doctors So-and-So), state that either through ignorance or through mercenary motives the family physicians are advising their people not to take this as we have been giving it, and this has been adopted by the United States Public Health Service and by the state department of health. If they don't quit telling these things we are going to publish their names in the paper."

Well, I happened to go to the hospital. I had thought I was the only one. I didn't know that anybody else had said anything about it. I found that they had had a regular indignation meeting over there. The result was that a committee was appointed and they sent out a questionnaire all over the east and south and north and west, directed to the different pediatricians and asking their opinion on this particular thing. It would be quite interesting if I had that report to read here. I called up and asked them to send it up from home. I don't know whether it has come or not.

Of course, there was none of them who advised that it be done. As I recall, Dr. Bishop hadn't recommended it yet. He thought probably it might be all right. But in the article that this county physician gave out he said that it had been adopted by the state department of health. When this report came out our committee, of course, published their findings in the paper. Of course, he came back, saying that regardless of what our report meant, he was going to continue on in the same way. That is the end of the matter so far as I know.

THE SPEAKER: Just one minute, gentlemen. Dr. McElroy wants to say a few words to us and he has to go down to the meeting right away. Will someone make a motion to suspend this discussion until after we hear from him?

(Upon motion regularly made and seconded, it was voted to suspend discussion on the motion for a brief period).

THE SPEAKER: Gentlemen, Dr. McElroy.

PRESIDENT McELROY: Mr. Speaker and Gentlemen of the House of Delegates: I have very little to say in the way of recommendations except to bring you greetings and to offer my hearty co-operation in anything that you may do. Just in a word I should like to call your attention to what I think is one of the greatest things that is before the medical profession today. That was brought up by Dr. Howlett. I think that we are on the eve of the greatest revolution in the regulation of the practice of medicine that has ever been our misfortune or fortune to face, and it is necessary for you as members directing the affairs of the state to develop medical statesmanship which will enable us to prevent the adoption of certain things which are all around us and leading inevitably, if we don't take the thing in charge, to state medicine.

I have had the pleasure of reading every one of the reports of this committee which has been appointed to determine the cost of medical practice in the United States, and I am recommending to you the careful study of the summary of this report which has been given by Dr. Howlett this morning.

It has been evidently the result of the revolution which has been going on in medicine for a quarter of a century or more, in which we are getting away from the art of medicine and into the science of medicine. As a result of that we are losing contact with the old families we had in the past. You all probably will recall the beautiful description of the old country of the South as given by our own Tennessean, Opie Read, and you probably recall the country doctor who is described by Balzac.

We must, I think, be familiar with the things that are taking place, and they have been given to you in a very accurate way by Dr. Howlett this morning.

All of those reports are available, and as he says, there will be another meeting of the committee this summer and probably in 1932, too, so it is up to you to be familiar with this thing that will solve all of the questions which I have heard discussed this morning, and included in the recommendations of Dr. Wilbur. In other words, the practitioner of medicine must keep in contact with his patient. There is no way in which we can practice medicine successfully unless we do. Then the second thing, that the doctor takes upon himself, even in a gratis way, the dissemination of the principles of public health among his patients. That has to be done. A patient is not to be told how to maintain his health by nurses or by public health officials or anybody else. That is the business of the doctor. When you do that you will solve the question which Dr. Stem has just discussed.

I recommend to you particularly the careful study of this synopsis of the report which has been given to you by Dr. Howlett this morning.

I certainly extend to you my sincere co-operation and I hope and I am sure you will do everything which is best for the best interests of the profession at large, for the profession of Tennessee and for each one of us. (Applause.)

THE SPEAKER: Gentlemen, are you ready for the question?

DR. MILLER: These problems are just exactly what this committee is appointed to work out. Let's go ahead and vote on that and expedite the business.

DR. W. P. WOOD: I want to ask how the committee is going to function. Are they to get together every month or two months and go over the reports that are sent in to them, the excuses or the complaints? Is the committee going to function that way or is the committee going to meet once a year?

How are they going to function without money? Are they going to be called on to meet every now and then to iron out these conditions? Are we going to have to wait a year or two years before we can get any relief from the practices that they are following? They have just told us about a few of them. A few have been told. It is like the old saying, "the half has never yet been told." Certainly something ought to be done with them. If this committee can meet and iron them out I think that is the thing.

DR. COWDEN: It strikes me that this discussion is entirely out of order. We have no authority to appoint the committee until the amendment has been adopted. The only thing to do is to adopt the amendment and then lay it on the table. When it is adopted finally at the end of the year then we can have a committee that is empowered to act upon these questions.

THE SPEAKER: The discussion is not on the committee but on the amendment, as I take it.

All of the discussion, I take it, is to impress upon you the importance of this amendment, and it is important, because if the wrong men are appointed under this amendment you are going to be in worse shape than you were before. If good men are appointed you are going to be in better shape.

THE SPEAKER: Are you ready for the question? All in favor of adopting the amendment will signify the same by saying aye; opposed, no. The amendment is adopted and it is so ordered.

DR. J. F. GALLAGHER: Being the author of this amendment I should like to speak to the point raised by Dr. Wood. It is a good one. I can only tell you how the committee is going to function by telling you how the other committee we had functioned. The minute that a matter was brought to my attention it was immediately taken up with the other members of the committee by correspondence and telephone, and then taken up with the Commissioner of Health. I don't know how any other committee is going to function. I can only tell you how one did function. Furthermore, I have found, and I make this as a suggestion, that there is a tremendous amount of work in this committee. While I want it distinctly understood that under no circumstances am I going to be a member of this committee, some funds should be provided for the functioning of this committee. The stenographic work alone, with three members, was larger than one would imagine. Telephone work was somewhat expensive. I think it would be the part of wisdom for the House of Delegates to consider a fund of our own choosing to enable this committee to act actively and to function properly.

DR. MILLER: In order to get action here, I move that the Speaker, the Secretary and Dr. Gallagher go to the present President and advise with him on the appointment of this committee of five, that this committee be appointed today, and that tomorrow they have a meeting and a hearing, if you please, and organize and get ready for action. I make that motion.

(The motion was seconded.)

DR. GALLAGHER: Leave me off. Get somebody else.

DR. STEM: I think that is entirely out of order because the present President's term of office is over. This committee has to work with the new incoming President. I think it is his duty to appoint this committee. The present President has had a committee working with him for this past year. This is a committee to be appointed.

THE SPEAKER: I will rule it all out of order for the reason that one of the By-Laws distinctly states who shall appoint the committees. This, as I understand it, will be taken up in the natural course. It will come up to the new President when he appoints this committee as he does all others. We can't change the By-Laws. I rule that is all out of order. What is the next question before the House?

DR. EVERETT: Yesterday Dr. Miller filed his Medical Defense Committee's report. The report was adopted as read and the committee was continued. Chapter VIII, Section 5, of the By-Laws specifically provides that this Medical Defense Committee shall be elected. I think that that part of the motion was out of order. Nominations for the committee should be brought in by the Nominating Committee who will report tomorrow. I should like to get the Speaker's ruling on that point because I do not think that a committee of this importance should be functioning without specific authority. In other words, if they are not correctly appointed then they are functioning without authority.

THE SECRETARY: In reference to the question, every member of that committee was serving until his successor is appointed. Dr. Miller's time has expired but he has still got the same authority by reason of the fact that he is serving until his successor is qualified. I think that the time of every member of the committee is expired, and your committee had better bring in an entire list.

DR. MILLER: I want to call the Secretary's attention to that and make some corrections. The proceedings of 1929 read as follows. I want any of you to tell me who is for one year, two years and three years.

"Speaker Cowden: I declare the next procedure the election of the three members of the Medical Defense.

"Dr. Sheddan: One from East Tennessee, one from Middle Tennessee, and one from West Tennessee, as provided for in your By-Laws.

"Speaker Cowden: I will entertain nominations for members of the Medical Defense Committee for one year for East Tennessee.

"Dr. W. K. Sheddan: I would like to place in nomination the name of a gentleman who has been on that committee, Dr. Jere L. Crook of Jackson."

The Speaker said East Tennessee and for one year.

"(Seconded.)

"Dr. L. L. Sheddan: I want to place in nomination Dr. S. R. Miller as member from East Tennessee for two years."

He already asked for one year.

"Speaker Cowden: Three-year man for East Tennessee."

They just nominated one from East Tennessee for two years, don't you see?

"Dr. Everett: Mr. Speaker, I wish to nominate Dr. Shoulders.

"Secretary Shoulders: Mr. Speaker, I wish to ask Dr. Everett to withdraw my name, if he will, kindly.

"Dr. Everett: All right, I will do that.

"(Dr. Sheddan nominated Dr. Tigert; seconded.)

"Dr. Everett: Mr. Speaker, I move you, sir, that we vote on the gentlemen just nominated for members of the Medical Defense Committee as a whole.

"(Seconded, put and carried unanimously.)

"Dr. Everett: Mr. Speaker, I move you, sir, if there are no other nominations the Secretary cast the unanimous vote for the gentlemen just now mentioned.

"(Seconded, put and carried unanimously.)"

If anyone can tell me who was elected for one year, two years and three years, I will pay the bill.

THE SECRETARY: Mr. Speaker, I rise to repeat the same statement I made a minute ago: Nobody knows whose time is out, and further than that, my service on the committee was continued simply because Dr. Tigert refused to qualify. He didn't need to go into that detail. He refused to qualify and I served even though I had requested to be relieved. They were all elected, but nobody knows who was for what term.

DR. EVERETT: Mr. Speaker, in discussing this matter with Dr. Miller, I find that Jere L. Crook, who represents West Tennessee, has been sick and is not functioning on this committee, although I am sure he is a most valuable man when he is well. The man is sick and I do not believe that we ought to impose this heavy work on a sick man when he is trying to get well. For that reason I think the committee should be reelected in some way so that we can have a representative on this committee from each division of the state. From what Dr. Miller tells me, we have a good deal of business for this committee from West Tennessee and we should have a member of the committee there to function with him.

THE SPEAKER: Dr. Everett, doesn't it specifically say that they should be elected for one year, two years and three years?

DR. EVERETT: The section here provides that the original committee shall be elected for one, two and three years, so that one man's time will expire each year.

THE SPEAKER: I am going to rule that this whole thing is defunct up to the present time.

The Nominating Committee is instructed to nominate a new committee, according to the By-Laws, one from each division of the state, and they shall state in some way which one they want for one, two and three years. (Applause).

DR. T. B. YANCY (Kingsport): I think the Nominating Committee ought to say when they are to meet.

THE SPEAKER: Doctor, you will have to find that out from somebody else.

DR. BURNS: Let the Nominating Committee meet after this adjournment. We have to organize.

THE SPEAKER: It is understood, then, that the Nominating Committee will meet immediately after adjournment this morning. Please bear that in mind. Is there anything else to come up this morning?

DR. J. McINTOSH: I have a motion I should like to make, if it is in order: The Memphis and Shelby County Medical Society, a unit of this Association, has renewed its invitation to the American Medical Association, inviting them to hold their annual meeting in Memphis in 1932. Therefore, I move you that the House of Delegates of this parent Association, the Tennessee State Medical Association, approve and support the invitation of the Memphis and Shelby Medical Society to the American Medical Association.

(The motion was regularly seconded, was put to a vote and was carried.)

DR. MILLER: I think the Councillors are as ready to report now as they will be. It will take some little time. They ought to have their reports in today.

THE SPEAKER: Has the Treasurer's report arrived?

THE SECRETARY: Not that I know of.

THE SPEAKER: I guess it is coming.

Has anybody else anything to bring up?

DR. J. B. TAYLOR: I should like to ask, Doctor, that the reports of Councillors be deferred until, say, this evening's session.

THE SPEAKER: Dr. Miller is not quite ready so that will be deferred until this evening.

DR. MILLER: All right.

DR. EVERETT: Last year there was a proposed bill offered to create, if we could get the bill passed by the legislature, a lien on certain accident cases which we are called upon to attend. This bill was submitted to some members of the legislature from my county who objected to it as it was drawn. One of the reasons was that it was not in proper form, as the man stated. He had some other slight objections. He drew another bill in lieu of the one that we had passed, with slight changes. One was to clarify the matter of fixing the lien on the entire amount recovered. In other words, at the present time, under the new bill it would only apply to the part of the recovery going to the patient, eliminating attorneys' fees. In other words, the attorneys claim that the attorneys' fees should not be involved in a lien for medical service, that it was compensation that did not belong to the patient. We agreed to that, locally. The next was that he wanted to include in the bill a provision that the doctor could not claim his medical lien unless he was interested sufficiently in the accident to appear and testify to the fact in court. For that it provided a fee of $25 per day or fraction thereof as witness fees, in addition to the regular charge for medical services.

The status of this bill is this: It is known as House Bill 514. It has been introduced in the House of Representatives by the members of the Shelby County delegation. It has passed second reading and has been referred to the Judiciary Committee. Immediately after the recess we had hoped that this bill would be given some further consideration in the House and in the Senate. It strikes me that it would be a very good thing, if we think well of the bill, for considerably more interest to be shown in it, more than has been taken in it from other parts of the state, other than Shelby County. I do not mean to infer that the doctors here have not taken any interest in it especially, because some of the men in East Tennessee have been very active along this line.

Dr. Newell introduced this matter last year and I have had quite a bit of correspondence with him in the interval since that time. If we can get our people here actively behind this bill I think it would be a very valuable thing for all of us, as well as for those who take care of automobile wrecks and the other things that we are called upon to take care of, where many times others collect their fees and they never pay the medical expenses.

I have a number of copies of this bill and I should be glad to supply what I have here to any who would be interested in it. If you wish to pass a further resolution regarding this matter, all right. It was passed last year and the Legislative Committee was requested to use all reasonable effort to cause this bill to be enacted. I know of no other way except that we could instruct the new Legislative Committee that will be appointed by the new President to use their efforts in causing this bill to be enacted by the legislature.

DR. EVERETT: If it is in order, Mr. Speaker, I make a motion to that effect; that the Legislative Committee be instructed to try to cause House Bill 514 to be passed at this session of the legislature, which will convene soon.

(The motion was seconded.)

THE SECRETARY: Mr. Speaker, I believe it would be fine if Dr. Everett can give us the present status of the bill.

DR. EVERETT: I just stated that it has been introduced in the House, passed the second reading, and is referred to the Judiciary Committee. It is known as No. 514. Here is a copy, Mr. Secretary.

It has not been introduced in the Senate as yet, but I believe that if we could get support from other parts of the state other than Shelby County, our Shelby delegation will be favorable to this measure.

THE SPEAKER: I am going to make the suggestion that you give each member a copy of that and let him read it. We vote on too many questions that we don't know what we are voting on. Let each member read that. Will you withdraw your motion just for the present so that we may have a chance to read it? Of course, if you desire, we can vote on it now.

DR. EVERETT: I will be glad to defer the matter until this afternoon, if you choose.

THE SPEAKER: That will give them a chance to read the bill and know what they are voting for. We have asked Dr. Everett to reduce this motion to writing and present it this afternoon when we can vote on it more intelligently. We will take that up again this afternoon.

Gentlemen, let's do a little fast work. We shall ask these committees to report very briefly. We will take the report of Dr. Yancy first.

DR. T. B. YANCY (Kingsport): There is only one other member of my committee here and I don't think we have any report.

THE SPEAKER: The committee has no report. Dr. Caldwell, will you report for the Committee on Public Policy and Legislation?

DR. ROBERT CALDWELL (Nashville): A great deal hasn't transpired. As you know, our legislature hasn't done very much yet. Only one or two things have come up with reference to policies and legislation. I might say that probably the only bill that is before the legislature at the present time is the bill with reference to the collecting of hospital and doctors' fees from accident cases that die. That gives us a prior claim on services rendered at the last illness and in accident cases where judgment has been secured. That must be paid out of what has been recovered.

There is only one other thing that we have had much to do with. That probably is of considerable interest and should receive some consideration at the hands of the House of Delegates. That is with reference to our state health department. You probably all have received a letter from the Legislative Committee and the Liaison Committee with reference to the budget for the next biennium. The committee has cut the budget for the state health department very considerably, and, as your committee feels after considerable investigation, unjustifiably. We feel that while it is all right to reduce our expenses within our income, that the state should retrench probably in spending the money, yet we doubt if they should do it at the expense of the health of the state. I think if we want to retrench we might quit work building roads for a while, because we have pretty good roads and we can get about over them. On most of the roads of the state we can go almost anywhere we want to. We might retrench there, but I feel that if we let up on our health work we will do the state a great injustice. Probably some of you don't know that in this budget that the state gives us they specify so much for certain departments. They don't give the department a certain amount of the budget and allow it to distribute that by themselves as they see fit. For instance, on laboratories. They have been giving them about $35,000 for the maintenance of laboratories of the state health department. They want to cut that to $7,500 for laboratories. That is just ridiculous. If they are going to try to cut the laboratories to $7,500, they might just shut them down and not have any laboratories.

We feel that way. So far as your committee is concerned, we would be glad if the House of Delegates would take some action upon this matter and instruct us whether we did the right thing in trying to maintain a reasonable amount for the health department of the state, or whether we did wrong. We would be glad, of course, to be guided by your instruction in the matter. We have only asked that it be kept on the same basis as it was on the last biennium, not asking for any increase. The department did ask for an increase but I know Dr. Bishop is willing to go ahead and do the best he can with what he had for the last period, what the legislature gave him then. I think that is only fair.

DR. WILSON: You may have this idea or other ideas about the health department and things of that kind. Let's not tear it up rigidly, at one fell swoop. Let's not disorganize it, but if there are things that need changing in the health department, let's change them gradually and not radically.

DR. D. G. SHIELDS: I got a letter from the committee which stated they didn't want any increase. The impression was out that they were going to ask for an increase, but abandoned that. I went immediately to our representative and told him that it would ruin the health department of the state, that it was doing good work and we only asked to keep it where it was. He said he would surely vote for it. That is the way to go at it. He is a representative and he said he would vote for it.

DR. J. B. TAYLOR: I was of the impression that the state department had asked for a large increase. I have the two letters that the gentleman refers to. They are not increasing them, or even maintaining them as they were before. The Finance Ways and Means Committee haven't recommended an increase or even to maintain the present appropriations in any department of the state. I think the health department is getting all that is coming to it. I think what the health department is doing to the profession is a plenty. I have so felt that and I think the majority of the medical profession do. I am positively opposed, gentlemen, to an increased appropriation, especially at this time when the state is bankrupt. If you do maintain the present appropriation that is all that could be asked or required.

So far as the laboratories are concerned, if reports that come to me are true, I don't know, I think the laboratories are probably doing more harm to the profession at large than they are doing good to the public. Personally, I wouldn't regret to see that part of it abolished, although I don't want to be radical. I don't believe that a majority of this House is going to ask the legislature to make any further appropriation, or at least to ask them to make any increase in the appropriation for our health department.

DR. SHIELDS: They don't ask for any.

THE SPEAKER: Gentlemen, you have heard the report. What will you do with it?

(Upon motion regularly made and seconded, it was voted to adopt the report as presented).

THE SPEAKER: Is Dr. Malone of Memphis here? (Not present.) Dr. DeLoach? Dr. Shoulders?

THE SECRETARY: We file with you the program of this meeting as an evidence of our activity on the Committee on Scientific Work.

THE SPEAKER: What shall we do with that report?

DR. RICHARDS: I move it be accepted.

(The motion was regularly seconded, was put to a vote and was carried.)

THE SPEAKER: We are getting cleaned up pretty well here, I think. Is there anything else? If there is nothing else to bring up at this time, we are adjourned until one o'clock this afternoon.

(The meeting adjourned at nine-forty-five o'clock.)

WEDNESDAY AFTERNOON SESSION

APRIL 15, 1931

The meeting convened at one-twenty-five o'clock, Dr. E. R. Zemp presiding.

THE SPEAKER: Gentlemen, let's come to order.

I think at this time we will take up the report of the Treasurer.

DR. J. OWSLEY MANIER (Nashville): Mr. Chairman, we have here to present to you the audit covering the fiscal year of 1930. This report, made by a certified accountant at Nashville, is so voluminous that to try to go into detail at this meeting would hardly be worth while. I present this as a report of the Treasurer with the request that a committee be appointed to audit the Treasurer's accounts. If you want the high spots I can give them better without referring to this report.

AUDIT REPORT
ON
TENNESSEE STATE MEDICAL ASSOCIATION
AS AT
DECEMBER 31, 1930

To the Chairman and Board of Trustees,
Tennessee State Medical Association,
Nashville, Tennessee.
Gentlemen:

In accordance with your instructions, we have made an audit of the Cash Receipts and Disbursements of the Tennessee State Medical Association covering the year 1930, and herewith submit our report, together with comments relative thereto.

CASH ACCOUNT

All Cash Receipts and Disbursements were verified and all monies were found properly accounted for. Attached schedule shows reconciliation with banks' record.

ASSETS

The Association owned the following assets on December 31, 1930:

Accounts Receivable—Advertising	$ 801.87
First Mortgage Notes	10,000.00
Cash on hand and in bank	1,306.27
Total Current Assets	$12,108.14
Inventory of Historical Books on hand at December 31, 1930, cost price	4,597.17
Total Assets December 31, 1930	$16,705.31

The First Mortgage Notes were inspected by us at the American Trust Company and consist of the following:

S. H. Dilliard and wife	$ 2,500.00
T. J. Haile and Wife	5,000.00
J. H. Horn and wife	2,500.00
Total	$10,000.00

LIABILITIES

An examination revealed the following liabilities as at December 31, 1930:

McEwens Laundry	$ 1.00
McQuiddy Printing Company	4.50
Dr. H. H. Shoulders, salary last half December	62.50
Total Liabilities	$68.00

GENERAL

A Bond amounting to $10,000.00 carried on the Treasurer, Dr. J. O. Manier, was inspected by us. Also a fire insurance policy, amounting to $500.00 carried on the office furniture and fixtures.

Respectfully submitted,

A. H. **Blair**, C. P. A.

ANALYSIS OF RECEIPTS AND DISBURSEMENTS FOR YEAR 1930

RECEIPTS

Dues	$ 6,530.00
Medical Defense Schedule	2,106.00
Advertising	4,943.74
Interest on Investments	707.83
History Schedule	609.75
Exhibits Booth	1,060.00
Cuts, Subscriptions, etc.	225.78
Notes sold H. H. Crossfield	2,000.00
Notes sold H. P. Murrey	2,500.00
Total Receipts	$20,683.10

DISBURSEMENTS

Medical Defense Schedule	$ 1,959.69
Medical Journals—	
Printing	4,188.63
Cuts, photos and extras	343.65
Salaries—	
Dr. H. H. Shoulders, Sec'y and Editor	1,500.00
Dr. W. M. Hardy, Assistant Editor	2,400.00
Miss Williard Batey	1,500.00
Dr. J. O. Manier, Treasurer	100.00
Convention Expenses Schedule	1,493.66
Historical Expenses Schedule	5,206.92
General Expenses—	
Office rent	660.00
Light, heat, phone and supplies	161.22
Stationery, printing and office expense	498.89
Postage	145.00
Refund of Dues	12.00
Bond, Dr. Manier, Treasurer	25.00
Auditing	75.00
Exhibits	530.00
Expense allowance to A. M. A. Convention	192.78
Miscellaneous	29.40
Expense of Trustee Meeting	25.00
Total	$21,046.84

Excess of Disbursements over Receipts	$ 363.74
Represented by:	
Cash on hand and in bank, Jan. 1, 1930	$ 1,670.01
Cash on hand and in bank Dec. 31, 1930	1,306.27
	$ 363.74

ANALYSIS OF MONTHLY RECEIPTS FOR YEAR 1930

	Misc.	Dues	Medical Defense	Advertising
January	$ 18.60	$2,480.00	$ 925.00	$ 410.09
February	33.00	1,084.00	311.00	384.82
March	18.00	1,508.00	422.00	425.03
April	984.00	350.00	80.00	406.29
May	13.50	72.00	22.00	446.35
June	120.00	80.00	10.00	382.74
July	4.00	20.00	6.00	404.87
August	2.00	88.00	16.00	340.07
September	3.00	80.00	20.00	392.43
October	72.68	24.00	4.00	362.45
November	3.00	16.00	------	314.88
December	14.00	728.00	290.00	673.72
Totals	$1,285.78	$6,530.00	$2,106.00	$4,943.74

Miscellaneous also includes Receipts from Exhibits Booths, $1,060.00.

	Notes and Interest	History	Total
January	------	------	$ 3,833.69
February	$ 60.00	------	1,872.82
March	225.00	------	2,598.03
April	------	$471.75	2,292.04
May	------	84.00	637.85
June	2,193.66	27.00	2,813.40
July	------	9.00	443.87
August	------	3.00	449.07
September	2,729.17	9.00	3,233.60
October	------	3.00	466.13
November	------	------	333.88
December	------	3.00	1,708.72
Totals	$5,207.83	$609.75	$20,683.10

ANALYSIS OF MEDICAL DEFENSE FUND FOR YEAR 1930

RECEIPTS

From Members		$2,106.00

DISBURSEMENTS

C. P. Hutcheson (Shubert & Son vs. Dr. S. D. Davis)	$ 175.00	
Adams & Donelson (Mendor vs. Dr. E. S. Holder)	25.00	
Judge John Jennings (Va-Lay vs. Dr. G. M. Rogers)	175.00	
Adams, Donelson & Pope (Mrs. J. K. Scott vs. Dr. C. K. Lewis)	50.00	
(John Dairs vs. Dr. Howard)	143.46	
J. G. Crews (T. E. Willingham vs. Dr. J. W. Danley)	75.00	
Adams, Donelson & Pope (Miss Kimball vs. Drs. Coors & Leroy)	15.00	
Miss S. H. Strange (Lester Rupe vs. Dr. A. L. Ruce)	17.75	
Dr. J. P. Johnson (Joe Morgan vs. Dr. Johnson)	150.00	
Pearson & Hewgley (J. B. Drueke vs. Dr. J. L. Crook)	75.00	
Cates, Smith, Tate & Long (Lewis vs. Caserburg)	125.00	
Cates, Smith, Tate & Long (Dora Mitchell vs. W. S. Nash)	175.00	
Aust, Cornelius & Wade (Berry vs. Pollard & Sanders)	575.00	
& Sanders)	575.00	
Adams & Donelson (W. C. Allen vs. Likely Simpson)	100.00	
Jones & Davis (Tom Rogers vs. Dr. P. E. Parker)	25.00	
S. R. Miller (stamps and questionaires and clerical work)	52.48	
Refund Dues—Dr. J. W. Suggs	2.00	
Refund Dues—Jesse C. Hill, Dr. Rogers	2.00	
Refund Dues—S. F. McIntosh, Dr. Bibb	2.00	
Total Disbursements for year		$1,959.69
Excess of Receipts over Disbursements		$ 146.31

Represented by:		
Cash in bank January 1, 1930	$2,175.03	
Cash in bank December 31, 1930	2,321.34	
Increase in Medical Defense Fund		$ 146.31

ANALYSIS OF MEDICAL JOURNAL RECEIPTS AND DISBURSEMENTS FOR THE YEAR 1930

RECEIPTS

Advertising	$4,943.74	
Dues	3,265.00	
Cuts, subscriptions, etc.	225.78	
Total Receipts		$8,434.52

DISBURSEMENTS

Printing twelve issues, January, 1930, through December, 1930, inclusive	$4,188.63	
Cuts, photos and extras	343.65	
Salary, Secretary (two-thirds of salary paid)	1,000.00	
Total Disbursements		$5,532.28
Exess of Receipts over Disbursements		$2,902.24

ANALYSIS OF CONVENTION EXPENSES FOR YEAR 1930

Postage	$ 5.81
Badges	266.12
Programs	180.98
Orchestra	50.00
Photos, Amplifiers and slides	224.25
Drayage on piano	7.50
Guests, Hotel expense	66.95
Reporting	389.05
Rent of hall	20.00
Flowers	8.00
Extra stenographic work	275.00
Total	$1,493.66

ANALYSIS OF HISTORICAL COMMITTEE EXPENSES FOR YEAR 1930

RECEIPTS

Sale of Books	$ 609.75

DISBURSEMENTS

Writing		
P. M. Hamer	$1,053.73	
L. J. Mitchell by Battle Malone	450.00	$1,503.73
Printing		
Cokesbury Press		3,335.60
S. R. Miller		
Traveling	$ 21.40	
Photo—Dr. Walker	2.00	
Postage	2.00	25.40
Proof Reading		
J. W. Holland		50.00
Miscellaneous		
Stenographic and reference work, Dr. Litterer	$ 21.00	
Stenographic work, Dr. W. H. Witt	10.00	
Express on books to Corinth and Knoxville	60.64	
Traveling expense, Dr. Hamer	136.34	
Traveling expense, Dr. Shedden	3.00	
Research work, American College of Surgeons	8.06	
Photos and reprints	26.40	
Order blanks, labels, etc.	14.75	
Selling	10.00	
Postage	2.00	292.19
Total Disbursements		$5,206.92
Total Receipts		609.75
Excess of Disbursements over Receipts		$4,597.17

CASH RECONCILEMENT AS OF DECEMBER 31, 1930

Balance as per bank		$1,419.27
Less outstanding checks:		
O. F. Minton	$ 10.00	
W. M. Hardy	100.00	
Central Press Cl. Bureau	3.00	113.00
True balance December 31, 1930		$1,306.27

ANALYSIS OF ADVERTISING ACCOUNTS RECEIVABLE AS OF DECEMBER 31, 1930

Through Local Office—		
Howe Water Company	$ 93.50	
Cincinnati Sanitarium	9.00	
Hayes Sanitarium	5.50	
Waldrops' Pharmacy	60.00	
Physicians Directory	165.50	
Louisville Neuropathic Sanitarium	5.50	
Joe Morse & Company	3.25	
St. Albans Sanitarium	173.50	
Theo Tafel Company	9.00	
Watauga Sanitarium	6.50	
Dr. Stokes Sanitarium	27.50	
The McMillen Sanitarium	9.00	$558.75
Through Cooperative Medical Advertising Bureau—		
Appalachian Hall	$ 9.00	
Glenwood Park Sanitarium	1.62	
The Sugar Institute, Inc.	18.00	
Katherine L. Storm, M.D.	5.50	
S. H. Camp & Company	9.00	
Lederle Antitoxin Laboratories	5.50	
Parke Davis & Company	15.00	
E. J. Hart & Company, Ltd.	3.25	
Hords Sanitarium	9.00	
Mount Regis Sanitarium	9.00	
Lister Brothers, Inc.	3.25	
Mead Johnson & Company	15.00	
Eli Lilly & Company	22.50	
Hillcrest Sanitarium	9.00	
The Nonspi Company	5.50	
E. R. Squibb & Sons	15.00	
Hoffman La Roche Chemical Works	15.00	
Merck & Company	15.00	
Mellins Food Company	9.00	
Lynnhurst Sanitarium	9.00	
Hynson, Westcott & Dunning	5.50	
Maltbie Chemical Company	18.00	
Aynoes National Physicians Exchange	1.50	
C. B. Knox Gelatine Company	15.00	279.12
Total Accounts Receivable		$801.87

ANALYSIS OF INCREASE OR DECREASE IN FUNDS AS OF DECEMBER 31, 1930

	General Fund	Medical Defense	Combined
Cash December 31, 1930	$ 1,015.07	$ 2,321.34	$ 1,306.27
Investments—			
6% First Mortgage Real Estate Notes, 12-31-30	$10,000.00	--------	10,000.00
Total Cash and Investments, 12-31	$ 8,984.93	$ 2,321.34	$11,306.27
Cash January 1, 1930	$ 505.02	$ 2,175.03	$ 1,670.01
Investments—			
6% First Mortgage Real Estate Notes, 1-1-30	14,500.00	--------	14,500.00
Total Cash and Investments, 1-1	$13,994.98	$ 2,175.03	$16,170.01
Increase or Decrease* in Funds	$*5,010.05	$ 146.31	$*4,863.74

DR. AVERY: I move adoption of the report as it is there.

DR. EBLIN: I make a motion to accept this report and that you name a committee to audit it.

THE SPEAKER: Was that motion seconded?

DR. FANCHER: There is no motion before the House, Mr. Chairman.

DR. AVERY: I second that motion.

THE SPEAKER: It was moved by Dr. Eblin and seconded by Dr. Avery that the report be accepted and that the Chair appoint a committee to audit it and report back to the House.

DR. FANCHER: Mr. Speaker, I think that is entirely out of order. I don't see how we can accept it until we know what we are accepting. I believe that Dr. Shoulders gave us a synopsis of the Treasurer's report in his report, I mean the high lights in it. If the Treasurer could simply give us some high lights of his report then we could act on that. Until the committee or somebody acts on it or until we know something about it, it would be entirely imprudent for us to accept it.

DR. MANIER: Dr. Fancher, concerning that report, I have to make also the report for the Board of Trustees, which goes into those facts. It can be amplified at that time, it just seems to be a duplication of time to do it now and then repeat it in reporting for the Board of Trustees.

DR. RICHARDS: I would suggest this in lieu of the motion that has just been made. I made this motion: That a committee be appointed to audit the Treasurer's accounts and report on that to us. That is sufficient now, and if they accept the report favorably we can either accept it or reject it.

DR. J. P. TAYLOR: I second the motion.

THE SPEAKER: We have to vote on Dr. Eblin's motion. You can amend the motion.

DR. EBLIN: I made the motion in order to expedite matters. That's what I had in mind.

THE SPEAKER: Will you withdraw your motion?

DR. EBLIN: Inasmuch as the discussion has been what it has, I withdraw my motion.

THE SPEAKER: That leaves Dr. Richards' motion before the House, that a committee be appointed to audit the Treasurer's report .

(The motion was put to a vote and was carried.)

THE SPEAKER: The Chair will appoint that committee in just a little bit. We will have more to report on that committee a little later.

Let us hear the Trustees' report now.

(Dr. Manier read the report of the Board of Trustees.)

REPORT OF THE BOARD OF TRUSTEES OF THE TENNESSEE STATE MEDICAL ASSOCIATION

To the House of Delegates of the Tennessee State Medical Association:

In accord with the provisions of the Constitution the regular meeting of the Board of Trustees was held on February 8th, 1931, in the office of the Tennessee State Medical Association at Nashville, Tennessee. The following members were present: Dr. J. L. Jelks, Dr. R. B. Wood, Dr. L. T. Stem and Dr. J. O. Manier.

The audit of the funds of the Tennessee State Association for the year ending December 31, 1930, was considered in detail—the General Fund of the Association showing a loss for the year of $5,010.05. This loss is to be attributed to the net loss of $4,597.17 sustained in the publication of the History of the State Association and unusual expenses incident to the Centennial Meeting. It was brought out in the discussion, however, that in the future very little increase in the capital funds of the Association could be expected unless some retrenchment was made in the present existing activities of the State Association or else some increase made in the income of the Association. In this connection it became quite clear that no definite increase in income could be accomplished in any way other than by an increase in dues which your Board of Trustees did not feel advisable to recommend at this time. The question of the cost of the annual meeting, which was shown on an average to be approximately $1,000.00 with no income to balance it except one-half of the exhibit fees, which amounts to from $350.00 to $450.00 per year, was discussed at some length. In this connection there seemed to be only two possible means of meeting this deficit of the annual meeting of the State Association: (1) The assessment of a nominal general registration fee upon those members in attendance at the annual meeting. (2) The absorption, by the State Association, of the entire amount of the exhibit fees instead of allowing 50 per cent of these to revert to the local committee to help defray its expense incident to the entertainment of the State Association.

As you doubtless recall, at the meeting in Nashville in 1930 there was considerable discussion over the adoption of a registration fee and on the second day of the meeting a motion was passed authorizing a registration fee but on the next day this body saw fit to reverse its action. Your Board of Trustees realizes that there is much to be said on both sides of this question and wishes merely at this meeting to bring it again before you as one means of adjusting some of the financial difficulties of the State Association.

The question of the State Association absorbing the entire amount of the exhibit fees will reflect itself back financially upon the local entertainment committee in the cities in which the State Association meets. These entertainment committees find it necessary in addition to their share of the exhibit fees to raise amongst their local profession several thousand dollars in order to carry on their entertainment. It has seemed wise to the Board of Trustees to suggest for your consideration that the local committees on entertainment be relieved of the expense of the annual banquet and that this banquet be designated as the President's Banquet, each member in attendance paying for his own plate and that the local committee furnish such entertainment at the banquet as it may choose at its own expense. Though no definite action was taken by the Board of Trustees on this problem it was brought out in the meeting that practically every society of the size of the Tennessee State Medical Association and many that are much smaller pursue this line of management.

The secretary brought before the Board of Trustees the fact that the Proceedings of the House of Delegates, when published, absorbed practically one entire issue of the State Journal and as a result make it almost impossible to publish in the Journal even all the papers read at the annual meeting. The Proceedings for the 1930 meeting, even when printed in small print, occupied 43 pages of the December issue of last year. The Board of Trustees, after discussing and considering this situation went on record as recommending to the House of Delegates that they take action authorizing for the future the publication in the Journal only of the reports of committees and the action taken on them together with what other resolutions that might be introduced into the House and the action taken on these, eliminating from the published Proceedings of the House all discussions by its members. If this meets with your approval much space in the Journal could be saved and more scientific papers published. There would, of course, always be on file in the Journal office the complete stenographic record of the Proceedings of the House of Delegates covering reports, resolutions, individual discussions—in fact any and everything that might be said on the floor, and these reports, of course, would always be open to inspection and reference.

The Board of Trustees, then, without taking action on the above mentioned matters, instructed the chairman of the Board in the annual report to the House of Delegates to suggest to the House of Delegates for their consideration and action the following: (1) The question of a general registration fee at the annual meetings, the revenue therefrom to be applied to the expense incident to the meeting. (2) The question of the financing of the annual banquet by the individual membership of the Association in attendance at the banquet, the local committee on entertainment to have no financial responsibility incident to the banquet other than whatever outside entertainment it might see fit to supply. (3) The elimination of the discussions on the floor of the House from the Proceedings of the the House of Delegates as published in the Journal of the State Association.

J. O. MANIER.

THE SPEAKER: Gentlemen, you have heard the report of the Board of Trustees of the Tennessee State Medical Association. What will you do with it?

DR. SHIELDS: I should like to know what has become of the book, the Centennial book. I bought two copies over there and Dr. Kern bought one. I know I paid $3 each. I never heard of anybody else getting one. Did the House of Delegates or anybody else just knock that out in any way? I should like to ask that.

DR. J. P. TAYLOR: I notice a good deal of stress being put upon the banquet. Down in Memphis two or three years ago the members were assessed a certain amount for each plate. It went mighty bad. The whole membership came back home with sore toes. Memphis has been rather taboo since. If you are now going to change that proposition, then the expense of the banquet should be chargeable to the Association, not to the individual membership, but the Association as a whole, or it should be dispensed with entirely. Fellows don't like to go to banquet and have to put up so much per plate. It doesn't set good. It doesn't taste good. They go back with a bad taste in their mouths. That is about what I was going to say. It has a rather rotten taste, like the morning after the night before.

I don't believe the membership of this Association will stand for that. So if you are going to charge them individually you had better do away with the banquet altogether, or else assess the charge to the Association in general.

DR. R. B. WOOD (Knoxville): I want to say to Dr. Taylor that he will go away from Knoxville with a good taste in his mouth. Knoxvile is going to take care of the situation. I hope you will all go away with a good taste in your mouths tomorrow.

DR. EVERETT: Mr. Speaker, when we had our last meeting at Memphis, the one that Dr. Taylor referred to, there had been quite a little discussion about this banquet matter. Our committee there, against the wishes of the most of us, locally speaking, had gotten the idea that the system that is outlined in this Trustees' report should be invoked. For that reason they adopted this method, rather than their own free will, so to speak. The Shelby County Medical Society got a great deal of really unjust criticism from the Society itself, which should have gone to the committee rather than to the Society. The members of the committee should not have done that without going further into it. We have held there a meeting each year of the Tri-State Society. It has been their custom for years that each member pay for his own banquet ticket. That has been the way for I don't know how many years, at least as long as I have been attending and I don't know how many years before. They come there with the idea that that is the system. Each man buys his own banquet ticket and thinks nothing about it.

If this is adopted and the Association goes on record for each member paying for his own banquet ticket, we hope that you will defer that for at least one year because we do not care to assume the responsibility of starting it. We expect to extend an invitation for the meeting next year and we do not care to assume the responsibility of this being tried the second time with us. (Laughter.)

The committee made the arrangements when we met there before. As I say, they did it themselves without the most of us knowing anything about it until we were asked to buy our own banquet tickets. We naturally expect to contribute as we did in times gone by. The committee handled it on their own ideas, for which the local society got a great deal of criticism as a result.

As to this part of the report, if Memphis is to be awarded the meeting for another year, when we extend the invitation in the morning we hope you will defer it for at least one more year.

THE SPEAKER: I will say that the criticism I heard wasn't just the charge for the banquet. You charged $3 for a $1.25 dinner and then bragged that you had paid the expenses with it. (Laughter.)

DR. J. P. TAYLOR: I want to say that my friend, Dr. Rhea, and myself went to a picture show.

DR. EVERETT: What was that question now, Mr. Speaker?

THE SPEAKER: The complaints I heard were that you charged them $3 for a $1.25 dinner and then bragged that you paid the expenses of the meeting out of that dinner.

DR. EVERETT: That is the first I heard about that part of it. (Laughter.) Anyway, we just wish that this thing would be deferred for another year, if you expect to put that in force. Understand, I am not opposing that portion of the report, except to ask that some other portion of the state will take the responsibility for the first time.

DR. STEM: This thing was discussed pro and con for a long time with the Board of Trustees. When you have your local society meetings certainly you pay for your own plates. Who is the society? It is yourselves. Why shouldn't you pay for plates at this banquet the same as you do at your own society meetings? If you go to the American College of Physicians, if you go to their banquet you pay for your own plate. If you go to the American College of Surgeons' banquet you do the same thing. If you go to the Southern or to almost any place you pay your own way. Why work a hardship on this Association repeatedly by asking them to buy you something to eat. You are not so darned hard up that you can't pay for your own plates.

DR. J. P. TAYLOR: Did you ever go to the Middle Tennessee meetings?

DR. STEM: I have been to Middle Tennessee meetings. I have been in East Tennessee and to other district meetings. You pay a registration fee at all these local society meetings. At East Tennessee we pay a registration fee. There is no reason you should work the same hardship. Memphis is the only one that had the nerve to say anything about it.

DR. J. P. TAYLOR: I am opposed to penalizing a man for attendance at the medical association banquet. In our Middle Tennessee Association, the county in which that is held pays for it. If they don't want it they don't have to have it. That is right. That is a fact. No man should be penalized for attending his association's meeting unless he wants to pay the penalty.

THE SPEAKER: Is there any further discussion? You have taken up just one suggestion here. There are other suggestions you may want to talk about.

DR. MILLER: I move that you appoint a committee to consider the Trustees' report, to report back with specific recommendations to this House tomorrow morning immediately after the election of officers.

(The motion was seconded.)

THE SPEAKER: That a committee be appointed to study the report and report in the morning? Is that your motion?

DR. MILLER: Yes, sir.

THE SPEAKER: The motion is that a committee be appointed to study the Trustees' report and report back to this House tomorrow morning.

DR. FANCHER: Do you mean that it is the same committee that will report on the Treasurer's report?

THE SPEAKER: I think the one committee will do.

(The motion was put to a vote and was carried.)

THE SPEAKER: Before we appoint that committee we will hear from the Treasurer.

DR. MANIER: Mr. Chairman, posibly I was a little at fault and didn't get across the things that were brought out in the report. We are not in the position of recommending that you do this. As we have sensed the function of your Board of Trustees, it is, between these annual meetings, to sit down and consider possibilities that are worth while your considering. Don't think for a moment that we are in a position of trying to bring these things to you and urging you one way or the other, whether you adopt them or not. That isn't our concern. We feel that our position should be an informatory one, to offer possibilities that are worth while your considering. I am not personally defending this banquet thing, and yet I am afraid I didn't make clear to you the theory on which that suggestion came. As we set out about the funds of this organization, to the state association the annual meeting entails a net loss of around $700 to $1,000. You can't at this time, with any degree of common sense, try to raise your dues. The only possible way that we saw that you could acquire assets to meet that added expense was either by a registration fee, which frankly we doubted the validity of very much, as stated in the report, or by trying to increase the assets that the state society might get out of the general meeting by allowing them to absorb the entire exhibit space. Heretofore the fifty per cent or more of those exhibit fees that have gone to the local Committee on Entertainment have been a great deal of help to them in meeting the cost of their entertainment. We are not in the position at all of even advising that you do this. We are merely bringing forward to you this point, as stated in the report, that as things exist now we see very little opportunity for any increase materially from year to year in the capital funds of this society, and that by indirection, if the state society absorbs the entire exhibit fee it would take care of the expenses here. If you consider doing that then you could hardly ask the local profession to provide entertainment in the sense of a banquet.

There is one other reason we brought this matter before you, for your own consideration purely, and that is this: We are not trying to go back to the Memphis matter at all, but certainly if any action of that kind is ever to be taken it should not have to be taken by the local profession in the city in which this body meets. It should be taken by this body here, if you see fit to do it. You should not thrust off onto the local profession the question of having to be put in the position of being inhospitable in making such a charge, whether they feel it is a correct thing to do or not. Those facts I did want to amplify and get clear for apparently some of you didn't seem to get exactly that idea from the report.

In answer to Dr. Shields' question about the history, there were only approximately 200 of those histories sold. The remainder of them are still tangible assets in the possession of the state society.

DR. COWDEN: Is the running about $1,000 short just a recent thing or has it been that way all the way along? How long has the charge been about $1,000 for these meetings? Has it been always that way?

DR. MANIER: No, Dr. Cowden. The cost of the meeting, if you apportion it properly, has always been approximately that amount. The cost of the meeting last year, of course, was much higher than that. It ran about $1,500 or $1,600, carrying the proper amount of overhead that was attached to the meeting.

DR. COWDEN: If that be the case, if we have always had to pay about $1,000, why do you need the increase now to take care of it. It has always been that way, you say. We have a big sum in the treasury, somebody says, so why increase the fare now?

THE SPEAKER: I think we will cut out further discussion now. We will have plenty of opportunity to discuss it when the report comes back.

I am going to put on that committee: Dr. Fancher, Dr. Rhea and Dr. Thompson. Will you gentlemen come forward and get these reports and then report to us in the morning? They are both in there.

Now we recognize Dr. Cowden.

DR. COWDEN: I don't care to bring my matter up at this time until we get a report from the Treasurer to see how much funds we have. I don't want to consider my case now at all.

THE SPEAKER: Then we will pass over that until the committee reports back.

We will now hear the report from the Delegates to the American Medical Association. Dr. E. G. Wood.

(Dr. E. G. Wood read the report of the Delegates to the American Medical Association, during the reading of which Dr. L. T. Stem assumed the Chair.)

REPORT OF DELEGATES TO A. M. A.

To the Officers and Council of the Tennessee State Medical Association:

Your Chairman wishes to report on the activities of the Tennessee Delegates to the A. M. A. meeting in Detroit:

All delegates from Tennessee were present and attended all the sessions and call meetings. The minutes of Portland Session, as printed, were adopted without correction. After an able address by Dr. Warushuis, Speaker of the House, in which he recommended that the House of Delegates resolve itself into executive session at 2 p. m. on Tuesday of each annual meeting, and in which he also expressed his deep and lasting appreciation of the delegates' confidence and respect accorded him for the past eleven years, the House was presented with the President, Dr. M. L. Harris of Chicago, who delivered his address, touching at length upon the medical situation as it exists in England, which aims at establishing a universal medical service by the Government available to the entire population. Also a similar situation has arisen in Belgium, where it is an inability for physicians to have a sufficient number of pay patients to earn a living for themselves and families. Again the establishment in Prussia of an occupationed tax levied on the practice of medicine has brought consternation to the ranks of the medical profession. He then called attention to the economic condition as it exists in our country where medicine is under siege. He further spoke of the considerable importance of the work being done by the Committee on the Cost of Medical Care, and of the possible misconception by the profession of the purpose of this committee from its title, so the following title and sub-title were given: "The Committee on the Costs of Medical Care organized to study the economic aspects of the prevention and care of sickness, including the adequacy, availability and compensation of the persons and agencies concerned."

Then the following fundamental principles were adopted by the committee:

1. The personal relation between physician and patient must be preserved in any effective system of Medical Service.

2. The concept of medical service of the community should include a systematic and intensive use of preventive measures in private practice and effective support of preventive measures in public health work.

3. The medical service of a community should include the necessary facilities for adequate diagnosis and treatment.

The next address was given by the President-Elect, Wm. Gerry Morgan, Washington, D. C., in which he advanced the idea of a mid-year meeting of the House of Delegates. (Later not adopted.) He also spoke of the relation of the medical man to hospitals, and expressed the fact that doctor's services can not be regarded as part of that which the hospital sells or gives away, according to its own corporate judgment. Exceptions being of course private or teaching hospitals as well as municipal hospitals operated by taxation, where staffs are appointed on honorary basis, and the medical profession is itself at fault, failing to recognize that the members of the staff have already contributed their share of taxes to the undertaking.

Speaker Warushius then appointed the reference committees, and our state was represented by Dr. H. H. Shoulders, on the committee of Reports of Officers.

During the third meeting of the House of Delegates an important resolution on Administering Benefits to Disabled Veterans with non-service disabilities was introduced by Dr. Shoulders. This resolution was referred to Reference Committee on Legislation and Public Relations, and their report was that they did not feel it was within the province of the A. M. A. to recommend said legislation to the Government. Said report was adopted.

A resolution from the Illinois State Medical Society relative to standardization of Hospitals by the A. M. A. was approved by the committee on Medical Education and Hospitals and unanimously passed by the House.

A committee from Illinois, Kansas and Iowa met with Dr. Woodward, Director of the Bureau of Legal Medicine of the A. M. A., and drafted a resolution on pernicious radio broadcasting, and on adoption by the House, was directed to the Federal Radio Commission at Washington.

The House of Delegates again went on record as unanimously opposing all forms of legislation similar to the Sheppard-Towner Act, whereby Federal appropriations matched or unmatched by similar appropriations by the various states are to be used in maternal and infant welfare work. This resolution, which was sent to the President and all members of Congress as well as to all state officials of the country, showed that the states which received the Federal aid over a period of seven years, did not show any greater improvement in their mortality statistics than did those states that refused such assistance.

During the meeting a telegram was received from Washington stating that President Hoover was anxious to have the House of Delegates take some action in opposition to the Veteran's Enabling Act, which had just been passed by the Senate, whereby many new Veterans Hospitals would be built and all veterans would be cared for by the Government, regardless of when and where their disabilities were received. A resolution was passed and sent at once to the President, as requested. It was shown that the bill as passed by the Senate, if it became a law, might easily cost the country more than one-half billion dollars annually and it would be one more entering wedge for state medicine.

Upon suggestion by President Harris, and a resolution introduced by the California Medical Association, asking for the formation of a Council on Medical Economics, the reference committee on Reports of Officers unanimously approved the principle involved and recommended same to the House of Delegates, which was adopted.

At the election on Thursday afternoon, there were three candidates for President-Elect, E. H. Carey of Dallas, for six years a member of the Board of Trustees of the A. M. A.; E. Starr Judd of the Mayo Clinic, and Dr. Graves of Texas. Dr. Judd received 75 votes, Carey 69, and Graves 4, electing Judd on the first ballot.

Dr. Louis J. Hirschman of Detroit was unanimously elected Vice-President of the A. M. A., without opposition, while Dr. Olin West was re-elected Secretary. Other officers elected were Dr. Hayden of Chicago, Treasurer; Dr. Warushuis, Speaker of the House of Delegates; Dr. Bulson, Vice-Speaker, and Dr. Thomas S. Cullen to fill unexpired term of Dr. Richardson as a member of Board of Trustees. Also Dr. Petit of Portland, Oregon, and Dr. Upham of Ohio were re-elected to Board of Trustees for a term of five years.

Philadelphia was selected as the place for the 1931 annual meeting, the voting being as follows: Of 124 votes cast, Atlantic City received 50 and Philadelphia 74.

SPEAKER PRO TEM: You have heard the report. What shall we do with it?

DR. J. McINTOSH: I move we accept it.

DR. SHIELDS: I second the motion.

(The motion was put to a vote and was carried.)

THE SECRETARY: Mr. President, Dr. Wood has made a report for the delegates, for which we are grateful. In connection with the resolution which I offered at that meeting, I wish to say this to the House, and with the request, too, that you take some action on it, if you will.

The resolution I introduced was introduced at the request of a number of the members after I had spoken in the House on the question that was up, and in which discussion I made reference to the ideals. This has become apparent: The American Legion and the American Medical Association are political enemies. The American Medical Association has adhered to the fundamental principles that have governed our society and our profession. The American Legion has insistently solicited legislation in the interest of veterans, much of which had the elements of state medicine in it. The American Medical Association has opposed that legislation and thus has incurred the enmity of the high officials of the American Legion. For that reason it was my attempt to suggest a policy on which both the Legion and the Association might agree. Here is the substance of the resolution: That the federal government pursue the policy of issuing to each veteran a disability policy with a provision that the veteran would receive a certain sum, say $25 per week, during the period of disability. If the disabled requires hospitalization, the amount would be more. If such a policy were issued, the veteran would be ill in his own community, his own doctor would take care of him, his own doctor would collect the fee. If he chose to go to a hospital, he would go to his local hospital, and when his illness was over he would return to his home. If he should be in hard circumstances, the payments per week would pay the running expenses during the period of his disablement.

The policy of the federal government, as was outlined, is that of creating hospitals all over the country for the purpose of taking care of ill veterans whose illness had no relation in the world to service. I mean by that that a man in Memphis can go to the Veterans' Hospital and be operated on for appendicitis. He can have pneumonia or a broken back. Just those specific instances occur to me now. That is regardless of his financial circumstances.

Pursuant to that original policy, in the short session of Congress this year, there were introduced almost sixty bills providing for the creation and erection of hospitals throughout the country. I don't know how many more were introduced. I lost count along at about that point.

Let's see the economies. It costs the federal government more than $6 per bed to maintain those hospitals. They are staffed by the government with salaried physicians. Practitioners would not have access to those hospitals. You would have one in Knoxville, one in Johnson City or at any other point, but you couldn't use it. That is not all the cost. The cost of transporting the ill veteran, say from Bristol to Memphis, or from Bristol to a federal hospital, wherever it might be, is borne by the government. This cost of $6 per bed or something like that does not take into account the cost of the medical staff of that institution.

It became apparent to me that the government can issue to each veteran a policy with reasonable disability provisions at less cost than it can pursue the policy of erecting hospitals all over the country. Its hospital policy has been revised from time to time. The hospital first was created to take care of the veteran with a disability that was incurred in line of duty. As those men would reach a permanent status, either died or recovered, the beds became vacant. Then the Director made a regulation to the effect that as long as beds were vacant they would accept veterans with no service-connected disability. Thus that policy was initiated. Then the proportions between the two gradually shifted to where eighty per cent of admissions to many veterans' hospitals are men with non-service-connected disabilities.

With one more regulation added to that, the admission of the families of veterans, you can see what effect will be had on the practice of this country, when four million veterans and their wives and families have access to a government hospital at government expense. Then you see the reason for the suggestion I made in the resolution, which was simply this: It was to issue the disability certificates instead of building hospitals, staffing hospitals, having a man with an acute illness of pneumonia unable to get the benefit of a hospital, who can't get any benefit from the government at all, but who is just as much entitled to it as the man who is next door to the hospital. He is defeated.

The policy I suggested, that of issuing a disability policy, would enable every man to receive the same benefits, regardless of his location and regardless of the nature of his illness. He would not only receive the benefit but he would receive the benefit when he needs it.

I have made some calculations since then. I had made none before. I got the actuary at the National Life Insurance Company at Nashville to make some compilations. He figured that the maximum would be one week of illness per year per man. That is the experience of that company. In fact, it was the experience with a group of industrial men who would be more liable to illness than the veterans would be. If they got $25 per week under non-hospital confinement, it would be $200,000,000 per year. That is all it would cost the government to administer such a policy, provided the government assumes the expense of overhead. The government already has in existence in each state a Veterans' Bureau that could administer the law as a state insurance agency would administer it for the private company. The government, as has been suggested, is calculating on spending a billion dollars in its hospital program, and God knows where it would end.

So the policy I suggested would be: First, economy to the government; second, it will give equal benefits to every veteran, and the most desirable benefit, third, it will reserve to every member of the profession the rights to which I think he is entitled. That was the object of the resolution.

(Dr. Zemp took the Chair.)

THE SPEAKER: Is there any further discussion? What will you do with the resolution?

DR. HOWLETT: I make the motion that this House of Delegates go on record as endorsing the resolution introduced by Dr. Shoulders and as contained in the report by Dr. Wood.

(Dr. E. G. Wood seconded the motion.)

THE SPEAKER: You make a motion to endorse it?

DR. HOWLETT: To endorse the resolution that he introduced before the A. M. A.

DR. RICHARDS: Is that still pending?

DR. E. G. WOOD: It was introduced in the House of Delegates and was referred to the Committee on Public Relations. It is not now pending, but that doesn't keep this House from going on record as favoring the motion that was made, even though not passed.

(The motion was put to a vote and was carried.)

THE SPEAKER: This will bring us up to the reports of Councillors.

DR. EVERETT: Just before you take that up, I was requested this morning to withhold my motion requesting the new Legislative Committee to exert whatever effort they can in passing this House Bill 514 in the state legislature.

I move you, sir, that such instructions be given to our new Legislative Committee.

DR. SHIELDS: I second the motion.

DR. EVERETT: The substance of the bill is to create a lien on whatever amounts are recovered from personal injury cases.

(The motion was put to a vote and was carried.)

THE SPEAKER: The incoming Legislative Committee will be instructed or is instructed by this House of Delegates to use their best influence to have that bill passed.

Now, then, we will hear from the Councillors.

DR. MILLER: Mr. Chairman, I have most of the Councillors' reports here and I promise you I shall be brief. The details I imagine you don't care much about.

Dr. Fox was here yesterday. He has already sent me his reports. The First District is in just about the same condition that it was in one year ago. There have been very little changes in that district. Their gains and losses are practically the same.

The Second District is in the same condition that it was in last year. It is in very good condition with one exception. Jefferson County is not functioning. They pay their dues and elect their officers and that is all they do.

We have on foot a movement to get Jefferson County to join with Hamilton County. There is one physician in Dr. Fox's district, the First District, and he has given his consent to our getting that man in the Hamilton County Society.

Dr. Fancher's report is here and we heard about the same about his district. There was no material change in his reports. He has only four reports, but they are just about the same as they were one year ago.

Dr. Moore has sent in his reports. There is no material change that I can see from those reports. They have worked hard and well and have a good many reports for those sparsely settled territories.

Dr. King also sends in his report. His report is just the same as last year, the same counties organized, with approximately the same number of members and the same number of eligible members.

Dr. Dancy has sent in his reports. Dr. Dancy has a good many of these reports to send in, and he says that he is trying now, just as I am, to combine several societies into one. He finds that they function better that way. As you will notice from the reports, we are getting two counties, three counties, and in some cases five counties to join together. Thus they have better meetings.

The other report is Dr. Burns' report. He has only one county, 260 members. They have had 66 meetings. They do not guarantee the payments to the medical defense fund. I may say that about half of the counties guarantee the medical defense fee. They contend that they do not have over two suits every year filed against members who have not paid their fees, and of course those are cases where we refuse in this medical defense business.

That is, briefly, all of the reports, Mr. Chairman. I don't feel that it is necessary to take a lot of time reading the details.

There is just one matter now that I want to refer to. The Congress has changed the number of Congressmen from Tennessee to nine instead of ten. Of course, that necessitates the legislature changing the Congressional districts. We have heretofore had the Councillor's districts the same as Congressional districts. I have a list here of all of the counties the way they are and the way they are going to be. I know they have taken two from the Second and put them in the First District. They have taken off some from the Fourth and Fifth Districts and put them in the Second District.

The question is for this House to instruct us whether they want us to change our districts to correspond with the new Congressional districts. Otherwise, we want to continue on with the ten Councillors' districts with the county listings we had last year.

THE SPEAKER: What about Dr. Taylor's district. Also Dr. Nolen.

DR. J. P. TAYLOR: I have no report.

The status of the Fifth is the same as we reported last year. I have not succeeded in getting a report at all from Marshall, Lincoln and Bedford. At Rutherford and Coffee the report shows them the same as last year.

DR. STEM: Have you a special report on Rutherford?

DR. J. P. TAYLOR: Unfortunately, we have had a lot of trouble there. The society at Rutherford has not been functioning as I think it should have functioned. We have twenty-four members who pay their dues in Rutherford County, but we have had during the last year only three meetings and three scientific papers. I don't know what they are going to do in Rutherford County. I have spent a great deal of time, day after day, in going down there and trying to iron out a lot of differences and a lot of disturbances at Rutherford. I am afraid I was not successful in doing that.

THE SPEAKER: What seems to be the trouble?

DR. STEM: Didn't they send you something asking to turn in their charter?

DR. J. P. TAYLOR: That goes before the Council. This has nothing to do with that. That has been ironed out by the Council. The trouble down there, I should designate in a sort of rough and uncouth way as general cussedness. (Laughter.) That is the only way I can describe it. If you church members here will excuse me, it is just a piece of damned cussedness among the whole bunch. I don't know, but I may be able, if I live long enough, to iron that out and get them straight. There is a lot of jealousy and a lot of bickering that I can't straighten out. That is my report, gentlemen, for the Fifth.

In speaking to the question of reorganizing our Council, I see that there is absolutely no reason for that. We are not moved or actuated by any political reorganization. That reorganization in the state of Tennessee is purely a political proposition and has nothing to do whatever with our medical organization and should not be considered before this body. I hope, gentlemen, that you will permit the Councillors' districts to remain just as they are.

THE SPEAKER: Did you have a report from the Seventh, Dr. Miller?

DR. MILLER: I do not.

DR. STEM: I want to make a motion that we allow the districts to remain the same.

DR. COWDEN: I second the motion.

DR. BURNS: That is out of order.

THE SPEAKER: We are just ignoring them.

DR. FANCHER: As long as they are called Congressional districts we have to take some action on it.

THE SPEAKER: We don't call them Congressional districts.

DR. FANCHER: It says they conform to the Congressional districts.

THE SPEAKER: What says that?

DR. MILLER: They have heretofore conformed with them. I think we can go ahead as we are.

THE SECRETARY: Here is Dr. Nolen's report.

(Dr. Miller quoted from page 15 of the By-Laws.)

THE SPEAKER: I am talking about how the districts are designated.

DR. BURNS: The Councillors' districts are defined. Each county is apportioned to a particular district. It doesn't say anything about a Congressional district.

THE SPEAKER: I just wanted to be sure of it.

DR. BURNS: The Nominating Committee has decided not to enter into any kind of reorganization. We don't want to take that much work on ourselves.

DR. MILLER: Five Councillors shall be elected annually for two years. That is in the Constitution.

THE SPEAKER: You haven't the point yet, though.

DR. STEM: It is in Chapter VII of the By-Laws.

DR. BURNS: It doesn't say anything about Congressional districts.

THE SPEAKER: What I want to know is how the districts are made up.

DR. BURNS: Each district knows it has a certain number of counties. For instance, the Tenth District has Shelby County. I have only one. I have an easy proposition.

DR. RICHARDS: There are fourteen counties in the Third District.

(Dr. Everett quoted from Section 2, Article VIII of the Constitution.)

DR. MILLER: I am satisfied that everybody knows what counties make up the districts. They are referred to as Councillors' districts. Heretofore we have always had the Councillors' districts the same as the others, but the Constitution and By-Laws don't specifically say that.

DR. BURNS: There are a certain number of counties named for each district.

THE SPEAKER: We can't find that in the Constitution and By-Laws.

DR. BURNS: Everybody knows what counties he has.

THE SECRETARY: Mr. President, I move that this be referred to the Council for decision.

(The motion was seconded.)

THE SPEAKER: I am going to rule that since there is nothing in the Constitution and By-Laws the designation will stand just as it is.

DR. EVERETT: The election of Councillors falls immediately after their reports.

THE SECRETARY: Mr. President, I wish to report that the Credentials Committee recommend the seating of Dr. Mitchell as Alternate from Coffee County, and Dr. R. S. Perry from Maury.

THE SPEAKER: All right.

All in favor of seating these Delegates signify the same by saying aye; opposed, no. They are seated.

THE SPEAKER: Where does it say that the Councillors shall be elected immediately after their reports?

DR. EVERETT: Section 5, Article VIII of the Constitution.

(Dr. Everett quoted from the section.)

DR. EVERETT: The By-Laws provide for that. That has been the custom.

THE SPEAKER: We elect them at this meeting right after their reports?

DR. EVERETT: At the Wednesday afternoon session, immediately following their reports, they are to have an opportunity to organize after the new Councillors are elected.

THE SPEAKER: The election of Councillors is in order. Is this by ballot?

DR. EVERETT: They are nominated from the floor; as a rule they are the outgoing Councillors. I believe this year it is the even number.

THE SPEAKER: The Councillors to be elected are from the Second, Fourth, Sixth, Eighth and Tenth Districts.

DR. EVERETT: I nominate Dr. Burns from the Tenth District to succeed himself.

THE SPEAKER: No second is necessary.

MEMBER: I nominate Dr. J. T. Moore to succeed himself from the Fourth District.

DR. RHEA: I nominate Dr. L. E. Edwards instead of Dr. Howard King from the Sixth District.

DR. EBLIN: I nominate Dr. S. R. Miller from the Second District.

DR. STEM: I move they be closed.

THE SPEAKER: Is that all of them? All have been nominated?

(The motion was seconded.)

THE SPEAKER: All in favor of closing the nominations will say aye; opposed, no. It is carried and so ordered.

DR. EVERETT: Mr. Speaker, I move that the Secretary be instructed to cast the vote of this House for these gentlemen nominated.

THE SPEAKER: That has been the habit though it is illegal. It will save time but we can't do it according to Hoyle. If there is no objection, we can do it anyhow.

It has been moved and seconded that the Secretary cast the unanimous vote for these various Councillors that have been nominated. Are you ready for the question?

(The question was put to a vote and was carried.)

THE SECRETARY: It gives me pleasure to cast the unanimous vote for the Councillors who were nominated.

My attention was called to the fact that nobody was nominated from the Eighth District.

DR. THOMPSON: I wish to nominate Dr. A. B. Dancy to succeed himself.

THE SPEAKER: Without objection we will include him in the complimentary vote. (Laughter.) Is there any further business?

DR. R. B. WOOD: In view of the fact that there seem to be a number of things coming up that are not included in the Constitution and By-Laws, I move the appointment of a committee for the writing of a new Constitution and By-Laws.

THE SPEAKER: I don't hear that seconded.

DR. WOOD: Like those other things, it doesn't need it.

THE SECRETARY: I want to second Dr. Wood's motion, that a committee on the revision of the Constitution and By-Laws be appointed. The American Medical Association has gotten out a model Constitution and By-Laws. Our Constitution and By-Laws are in several respects antiquated. The very confusion that existed here today is an example. It does need revision. A committee is the only body that really can do it intelligently and present it to you next year for consideration. I will second his motion. If you don't like it next year you can reject it very promptly.

THE SPEAKER: All in favor of appointing a committee of three to revise the Constitution and By-Laws will signify the same by saying aye; opposed, no. All right. I shall appoint Dr. Wood, Dr. Shoulders and Dr. Rhea.

DR. WOOD: May I have the floor? Are you going to provide transportation for these three widely separated members of the committee?

THE SPEAKER: We are, but we want them to travel just as little as possible. Be sure it is not to the football game at Nashville. (Laughter.)

Is there anything else to come before us now?

DR. COWDEN: I should like to have the floor for a moment.

Gentlemen, as you all know, several years ago, five or six years ago, when it was decided to hold a centennial celebration of our one hundredth anniversary, a committee was appointed, consisting, I think, of Dr. Roberts, Dr. Eve and Dr. George Savage. They worked upon that thing for quite a while, assembling the data for it. Dr. Roberts died. They didn't do anything until at the meeting at Jackson in 1929 that committee was supplemented by the appointment of Dr. Sheddan and myself; we were additions to that old committee. We began the work. No piece of work in the world was ever undertaken under the difficulties that we had to encounter at that time. We since added to that committee Dr. Witt and Dr. Bilbro. As to the first difficulty that we had, we employed a gentleman in Nashville to compile our work. He worked on it for about six weeks and then threw up the job. He said he couldn't continue it. We then employed Dr. DeLong Rice. He was working in his cellar and had an explosion and lost his life. We then were directed to another man here in Tennessee and it was a godsend that we got him. I don't think five or six men ever did as much work in the world as we did upon that volume. We worked day and night to produce this thing.

Gentlemen, we have a pardonable pride in that work and we should like to see it in the hands of every member of the Tennessee State Medical Association. There have been only 203 volumes sold to date. It cost the Association a pile of money. I think we can very well say $5,000. That has gone, gentlemen. You will never hear of that money any more. For $1,781 in addition to that we can give every member of this Association a volume of that work. Every man who has said anything pertaining to the advancement of medical work and the medical profession in Tennessee at this meeting and at other meetings has called your attention to the fact that we are facing state medicine and industrial medicine today. We are going to need and we are needing right now every single, solitary doctor in the state of Tennessee to help us shape and form the legislative procedures that are going to be enacted here in a short time. If you will give me the unanimous support of every doctor in Tennessee I believe we can pass any measure pertaining to the practice of medicine in this state. I think that the doctors in their communities can control their representatives if you put this book into the hands of the fellows who are on the job out there. That is all there is to it. He is trying to make money enough to live on. He is raising stock and merchandising and doing things of that kind. Give him this book and he is going to read it enough to find out that he is a member of a great body of men that has done so much for the world and is still doing it. He will realize that he is a member of that body and whenever you call upon him he is ready to support you.

I don't believe that you can spend $1,781 for any purpose that will give you the results that this will. For a little over a dollar apiece we can give every member of this Association a copy of this book. You are not going to lose it. If you serve only 200 or 300 men in this Association that is going to cost about $26 a volume. This other way, if you spend $1,781 more, it will cost $4.30 a volume.

I don't want you to take action on this this afternoon. I want you to study it and look at it in a cool, calm, business-like way. That is all I want now.

I don't know how much money they have. Last year was the first year we ran behind. We made money for the last ten or fifteen years. I don't see anything that is going to make this expensive at all. We will never have another. I believe that this money belongs to this generation. There is no use, in my mind, in laying up this money and then spend it on some coming generation. I hold the contract here in my pocket, that they will lay those volumes down inside of three weeks for $1,781 more. That is my little story, gentlemen.

I want you to think it over. We will get action on it sometime tomorrow. I thank you.

DR. ROBERTS: That would include the policy that these 203 men who have bought the volume would have their money returned to them?

THE SPEAKER: Yes.

DR. COWDEN: Yes. In other words, the committee ordered 500 volumes printed and finished. We have those 500 volumes ready. They have sold 203. There are 297 volumes on hand now. We have 500 sets that are in loose-leaf, unbound. For the binding of these and the printing and publishing of 700 more, which will give us about 100 volumes for any extra need that we may find, they will cost $1,781, or a little more than a dollar apiece.

I do not believe that there will be many more sold. These volumes that we have put so much time and work on will be lost. That is the way I see it.

DR. STEM: I move that this matter be referred to the committee appointed to investigate our finances, consisting of Dr. Fancher, Dr. Thompson and Dr. Rhea.

DR. ROBERTS: I second the motion.

(The motion was put to a vote and was carried.)

THE SPEAKER: It will be referred to that same committee.

Is there anything further?

If not, we stand adjourned until eight o'clock in the morning.

(The meeting adjourned at two-forty-five o'clock.)

THURSDAY MORNING SESSION
APRIL 16, 1931

The meeting convened at eight-twenty-five o'clock, Dr. E. R. Zemp presiding.

THE SPEAKER: Gentlemen, let's come to order, please.

The first thing on the order of business this morning is the report of the Nominating Committee.

DR. COWDEN: Will you give us a minute?

THE SPEAKER: All right.

DR. J. A. McINTOSH: If it is in order I should like to introduce a resolution at this time:

"Whereas, the Knox County Medical Society officially and individually has cordially and hospitably entertained the members of the Tennessee State Medical Association in attendance at the annual meeting in Knoxville in 1931; therefore, be it

"RESOLVED, That the House of Delegates hereby express their sincere appreciation for the many courtesies shown to them."

I move adoption of the resolution.

DR. STEM: I second the motion.

(The motion was put to a vote and was carried.)

THE SPEAKER: Now we will turn back to the report of the Nominating Committee, Dr. Burns, Chairman.

DR. BURNS: Mr. Chairman, your Nominating Committee begs leave to report the following nominations for office for the ensuing year.

For the office of President of this Association, Dr. Robert Caldwell, Dr. W. C. Officer, and Dr. O. J. Porter.

DR. EVERETT: Those are elected as they are read. First we elect the President and then we take up the Vice-Presidents.

THE SPEAKER: The nominees are Dr. Robert Caldwell, Dr. W. C. Officer, and Dr. O. J. Porter.

Gentlemen, you have heard these nominations. Are there any other nominations? You know this is not final. Anyone who has any spite in his heart and wants to get even has this opportunity.

DR. BURNS: I move, Mr. President, that the nominations be closed and that the Secretary cast the vote.

DR. EVERETT: That can't be done.

DR. BURNS: Let's vote then.

DR. STEM: I second the motion.

THE SPEAKER: A motion has been made and seconded that the nominations be closed. Are you ready for the question?

(The question was put to a vote and was carried.)

THE SPEAKER: You will prepare your ballots for President.

I will appoint the tellers and try to pick out men who look honest. (Laughter.) I appoint Dr. Howlett, Dr. Thomas and Dr. Nichol.

(Canvass of ballots.)

THE SPEAKER: I will ask the Secretary to announce the results of the ballot.

THE SECRETARY: The result of the ballot is: Dr. Caldwell gets 26 votes, Dr. Porter 1 vote, Dr. Officer, no votes.

THE SPEAKER: It seems that Dr. Caldwell has been elected by a slight majority.

DR. BURNS: Shall we proceed with the election or do you want to notify the President?

THE SPEAKER: Proceed.

DR. BURNS: For Vice-President for East Tennessee, Dr. W. H. Reed of Kingsport; for Vice-President for Middle Tennessee, Dr. T. R. Ray, of Shelbyville; for Vice-President for West Tennessee, Dr. J. W. Oursler.

THE SPEAKER: Are there any other nominations for Vice-President?

DR. MILLER: I move that the nominations be closed and that the Secretary be instructed to cast the unanimous ballot for the nominees named.

THE SPEAKER: You can't do it. Any rule that protects an absent member cannot be rescinded even by unanimous consent.

DR. BURNS: The candidates are Drs. Reed, Ray and Oursler.

THE SPEAKERS: The tellers will please collect the ballots.

(Canvass of ballots.)

THE SPEAKER: The Secretary will announce the vote, please.

THE SECRETARY: The result of the vote is: Twenty-four votes, all cast for the nominees named.

THE SPEAKER: I hereby declare these three gentlemen, Drs. Reed, Ray and Oursler, elected as Vice-Presidents for the three districts.

DR. BURNS: The next officer to be elected is the Speaker of the House of Delegates.

Your committee is glad to report the name of Dr. E. R. Zemp of Knoxville.

THE SPEAKER: I wonder if we couldn't expedite matters by having the other three or four names placed on the one ballot.

DR. COWDEN: The Treasurer is elected by the Board of Trustees. Just the Secretary is left.

DR. BURNS: And the Delegates to the American Medical Association and the Medical Defense Committee.

THE SPEAKER: Can't we combine them on one ballot?

All right. Mr. Secretary, I will ask you to take the chair.

(The Secretary assumed the chair.)

THE SECRETARY: The chair will ask if there are other nominations from the floor for the office of Speaker of the House of Delegates. If not, a motion to close the nominations is in order.

DR. STEM: I move they be closed.

(The motion was seconded and carried.)

THE SECRETARY: Are you ready to vote on the election? All in favor of the election of Dr. E. R. Zemp as Speaker of the House of Delegates will make it known by saying aye; opposed, no. The "ayes" seem to have it. The "ayes" have it.

(Dr. Zemp assumed the chair.)

DR. BURNS: The next officer to be elected is the Secretary-Editor. The Nominating Committee has selected and is glad to report the name of Dr. H. H. Shoulders for this office.

DR. STEM: I move the nominations be closed, and that we elect by acclamation.

(The motion was seconded and carried.)

THE SPEAKER: I hereby announce that Dr. H. H. Shoulders is elected Secretary-Editor for the ensuing year.

DR. BURNS: For Trustee to be elected for the ensuing three years, the Nominating Committee reports the name of Dr. J. O. Manier as Trustee of the Journal, to succeed himself.

DR. STEM: I move the nominations be closed and that we elect by acclamation.

(The motion was seconded.)

THE SPEAKER: Is there any question? Of course, now that the nominations for Speaker are past, I am very anxious to see somebody nominated from the floor. (Laughter.) There doesn't seem to be any. All in favor of Dr. Manier being elected to the Board of Trustees will signify the same by saying aye; opposed, no. Dr. Manier is elected. He is a mighty good man.

DR. BURNS: Next is the nominations for Delegate to the American Medical Association for three years. The Nominating Committee nominates Dr. H. B. Everett to succeed himself.

THE SPEAKER: Are there any other nominations?

DR. NICHOL: I move that the nominations be closed and that Dr. Everett be elected by acclamation.

(The motion was seconded and carried.)

DR. BURNS: As Alternate for the same period from West Tennessee we have named Dr. E. C. Ellett to succeed himself as Alternate to the American Medical Association.

THE SPEAKER: Are there any further nominations?

DR. NICHOL: I move that the nominations be closed and that Dr. Ellett be elected by acclamation.

(The motion was seconded and carried.)

DR. BURNS: The Chair declared yesterday afternoon that the Committee on Medical Defense was defunct. I don't know what that means, but it seemed to require some action by the Nominating Committee. We are asking you to elect Dr. S. R. Miller to succeed himself for three years; Dr. H. B. Everett for two years, to take the place of Dr. Crook, and Dr. H. H. Shoulders as the third one for one year. One for one year, one for two and one for three. We recommend the election of these men.

DR. HOWLETT: I move that the nominations be closed and that these three men be elected by acclamation.

THE SPEAKER: The Committee on Medical

Defense is Dr. Miller for three years, Dr. Everett for two years, and Dr. Shoulders for one year.

THE SECRETARY: Doesn't the House elect the chairman or designate the chairman of this committee? If not, I move that Dr. S. R. Miller be made chairman.

DR. BURNS: That was omitted by the Nominating Committee. I didn't so state, but I should have.

DR. EVERETT: The committee fixes that.

DR. BURNS: We recommend it. He was the first one chosen.

THE SPEAKER: The first named generally is the chairman.

Are there any other nominations?

(The motion for the election of the Committee on Medical Defense was seconded and carried.)

THE SPEAKER: Are there any nominations for any offices to be filled?

DR. EVERETT: At this time I believe it has been customary to fix the place of meeting for the coming year. The Memphis and Shelby County Medical Society wishes to extend an invitation to this body to meet in the city of Memphis in 1932.

DR. COWDEN: I move the invitation be accepted.

DR. ROBERTS: I second the motion.

THE SPEAKER: We will see if any other invitations are offered from any other city. If not, are you ready for the question? All in favor of having Memphis as the next meeting place will signify the same by saying aye; opposed, no.

It seems that you are forgiven, Dr. Everett. (Laughter.)

We will take up the reports of these committees, if they are ready, this morning. First is the Committee on the Treasurer's Report.

Isn't' it customary to appoint someone to notify the House who has been elected?

DR. EVERETT: That is done just as we are getting through. TThe Chairman introduces the new President.

DR. FANCHER: The officers' committee was given a three-fold duty, that of passing on the report of the Treasurer and of the Trustees, and also on the advisability of adopting the resolution submitted by Dr. Cowden.

(Dr. Fancher read reports of the Auditing Committee, also the report on the resolution submitted by Dr. Cowden.)

To the House of Delegates of the Tennessee State Medical Association now assembled:

We, your Auditing Committee, wish to submit the following report:

After reviewing the auditor's report as submitted by your treasurer, we find such report correct and wish to recommend its adoption.

Respectfully submitted,

H. L. FANCHER, Chairman;
B. H. RHEA,
J. R. THOMPSON, JR.

To the House of Delegates of the Tennessee State Medical Association now assembled:

We, your Auditing Committee, wish to report the following:

After reviewing the report of the Board of Trustees, we wish to recommend that the House of Delegates accept this report in its entirety and with special reference to the advisability of eliminating our annual banquets at the expense of the local profession, we advise that the local profession may provide any entertainment they see fit, but so far as the banquet plate is concerned, we think it advisable for each member to pay for his own plate, and we do not favor the assessment of extra fees or registration fee to cover such expenses.

We think the House of Delegates acted wisely in eliminating from publication in the State Journal of discussions on the floor of the House of Delegates.

Respectfully submitted,

H. L. FANCHER, Chairman;
B. S. RHEA,
J. R. THOMPSON, JR.

DR. EVERETT: Mr. Speaker, I move that the committee's reports be accepted and adopted by this House and spread on the minutes.

(The motion was seconded.)

THE SPEAKER: The question is that the reports of the Auditing Committee be accepted and adopted. Is there any discussion?

DR. COWDEN: I rise to protest against the report. Not a man knows anything about that report at all. We don't know whether we owe $100,000 or whether we have $1,000,000 in the treasury. Let's find out, before we vote on that kind of thing, how much money we have in the treasury.

THE SPEAKER: Mr. Treasurer, have we got a million dollars in the treasury?

DR. MANIER: No, we haven't got a million dollars in the treasury.

DR. COWDEN: Do we owe $100,000?

DR. MANIER: The status of the finances, in brief, is about this: Your fiscal year, as you doubtless know, corresponds to the calendar year, and closes on the thirty-first day of December, instead of closing at the time of the annual meeting, as it did several years ago. As of December 31, 1930, in comparison with December 31, 1929, your state society had in its general fund, taking no cognizance of the medical defense funds, because while they are funds that are in the general fund they can only be expended for a specified purpose, the sum of $5,000 or a little over

$5,000 less than in 1929. In other words, you lost about $5,000 in operating during the past year, that is, the calendar year of 1930.

It is worth while to look at the state of your finances as they exist at this date, or we will say the thirty-first day of March, which is the last report of this year. At that time your funds were in this condition. As regards assets, you had $10,000 worth of first mortgage six per cent real estate bonds. That is the remnant of the capital fund that at one time amounted to a $15,000 investment. Five thousand dollars worth of those have been sold in the last year to liquidate the deficit that was created by the history and the last annual meeting. In cash in bank on the thirty-first day of March you had approximately $2,100, derived largely from the payment of your $4 membership dues. Up to that time there had been 1,350 paid-in memberships. This society has never had in any year a paid-in membership of over 1,640 members. Consequently during the next nine months we will still have to go through with those and we will have at the best only 300 paid-up memberships to come in, which would make an additional $1,200. Adding that to the $2,100 gives us about $3,300 as possible liquid assets. In addition to that, in revenue from advertising in the Journal, plus interest from your investment of capital funds, there will be, if this year runs as past years have run, $3,600 additional income. That makes the liquid funds between now and the thirty-first day of December of this year $6,700. That, of course, on the face of it, would make it look like this society was well off with assets of $16,000, $6,000 of liquid funds, plus the capital investment of $10,000.

You must not overlook this fact, however: There are accrued expenses, due to running the Journal, the salary of the Secretary and other people. Those expenses range from $750 to $900 a month. You have, on the lowest basis, an outgo of $7,000, against an income of less than $7,000. In other words, we will do very well, without any added expenditures, to turn up next year with our funds even in as good shape as they are now, and you may be faced with the problem of coming in with a small deficit of some few hundred dollars. That is about as plain a statement of the condition of the finances as I know how to make.

There is no one to whom I defer more than Dr. Cowden. I realize that he has every interest in wanting to do what he suggests. He has spent time and effort on a thing. He has done a profound amount of work on it.

There are one or two things, though, from the standpoint of being in the position of custodian of public funds that I think should be suggested to this body before they take any action on the expending of public funds.

While, of course, that fund is in our custody and it is within our power to liquidate and spend that money as this House of Delegates might direct, one should not forget that we did not create that fund. What little we have in that fund has been a gradual accumulation of the last ten or fifteen years. We are, in other words, trustees of a fund which at least has been partially created by people who have passed on. We have the legal right but I question whether we have the moral right to expend that fund except for the good of the profession at large. It is a very grave question in my mind whether we can spend it for our own pleasure and on ourselves.

Getting back to what it would cost us to do this if we adopt Dr. Cowden's request and resolution, Dr. Cowden made the statement, and I am sure it is perfectly accurate, that he had a contract with the publishers whereby the additional volumes that we would need in order to put one in the hands of every member of the Association would be gotten out for $1,730, as I recall.

DR. COWDEN: It is $1,781.

DR. MANIER: Well, $1,781. That is only part of the cost incident to that. There is the handling expenses on the book. They require postage, they require packing, they require drayage. The Secretary's office has furnished me with figures which show that on the average of the 200 volumes that have been disposed of the postage alone has run to eighteen cents a volume. On a conservative estimate, to disburse that number of volumes it will add from $300 to $400 additional expense, making it $2,100 to come out of our general treasury. Then you will be faced with this problem. There have been something over 200 volumes of this history sold to our membership at a price of $3 a volume. You are going to be faced with at least the moral obligation, in a sense, to return that $600 to those men. That is then not only going to require, due to that, the expenditure of an additional $600, running up your gross cost under this scheme to $3,000, but it is going to entail a certain amount of overhead and considerable confusion in your Secretary's office.

I think this fact you should have clearly in your mind before you take any action on this matter from a practical point of view. If this resolution of Dr. Cowden's should be adopted, to place the history in the hands of every member of this Association, you will approach this time next year with capital assets showing at least a definite net loss of somewhere between $2,500 and $3,000. Instead of having $10,000 in capital assets, you will do very well to turn up with $7,000.

Personally, as Treasurer, it makes no difference to me. I do think that no organization is economically sound that doesn't operate within its budget and goes a bit further than that and creates at least a minor surplus every year.

With a definite increase in the tendency toward state medicine and the socialization of our profession, the time is inevitably going to come when we are going to need money to be properly spent to protect the welfare of this body. I don't know when it is going to come, and I am not discussing going up to the capitol and bribing a few legislators, such as has been done on many other issues there not connected with medicine, but if we ever do approach the question of a regular fight it is going to take money to handle it. We must look to the future of medicine in that way. That is really my personal and my only particular desire to see the funds conserved. We have to meet that kind of emergency if it should arise, and I think we all know that it is coming. There is no use in dodging something that is inevitable, and it is probably coming much earlier than we think that it will. Thank you.

THE SPEAKER: Is there further discussion?

DR. COWDEN: I want to discuss it a little more.

Gentlemen, from his report there we have $3,600 now, or we have $3,300 in the fund. We expect to get from advertising about $3,600, making it $6,900, with a possible expenditure of $7,000. Those are his figures, not mine.

DR. MANIER: You misunderstood me. I said we had $2,100 in cash.

DR. COWDEN: The other 400 coming in would make it $3,300.

DR. MANIER: If we get the other 400. They aren't in yet.

DR. COWDEN: Say we get half of them.

DR. MANIER: Out of respect to the fact, Doctor, that this matter is very close to your heart, I am going to make my figures even tend toward your side. I will give you the $1,200. That makes it $3,300. The highest we have ever gotten in nine months out of advertising and out of income from our investment would be $3,600 more, making it $6,900. You have nine months to run with a sliding scale of expenses which have never run under $750 a month, and in most instances never under $900 a month. I have been liberal with you on the one side and am trying to be conservative on the other. We would not balance any way you could figure, that is, regarding purely the general running expenses. These expenses have to go on, whether we want them to or not.

DR. COWDEN: Let's' get it down. We have $3,600 and $3,300, making it $6,900. That is what our income will be. Now you say the expenses will be how much?

DR. MANIER: What was your question?

DR. COWDEN: We have so much money in the bank.

DR. MANIER: We have $2,100 in the bank. The other thing is purely tentative as to whether we will get it or not.

DR. MANIER: Then the $6,900, based on the past year, is the top of what you can hope to have between now and the first of the year. That is the top of it.

DR. COWDEN: Say with $750 a month expense.

DR. MANIER: I told you that was the minimum. In most instances it has been nearly $900.

DR. COWDEN: Make it $900. In nine months that will be $8,100. That is about $1,200 difference in our expenditures. Yet we have $10,000 in our fund. We had $16,000 last year. It will be 100 years before we will ever need that other $5,000. What are you going to do with this money? Are you going to raise this money and just throw it away, which is what will happen on those 200 volumes. There will never be many more books sold. Every man that I have talked to almost invariably believes that they should be distributed free. That is the reason a lot have not been buying them. They believe it ought to come to them free. It does seem that with the expenditure of $1,000 more above our expenses for another year we could, in justice to the membership of the Association, give them these volumes. It would cost only a little more than a dollar a volume to give it to them. As to the expense of the dissemination of this, he said it brings it up to about $600. Every man who bought that volume has had the worth of his money. I don't believe that a man who has bought this volume will ask for his money back. He got value received for his $3.

As to postage, they can be sent in bulk to the county secretaries for a very small sum. They can be distributed from the county societies at very little expense there.

It will cost only $1,781 to furnish them free to our secretaries and by their disseminating them it will be very low in cost. To save my life I don't see why that is not good, sound business judgment. I may be wrong about it. No two fellows in the society think alike at all times.

Dr. Manier has been pretty good to me. We have no personal feelings about this thing, not a bit. We are just divided here about our business judgment. I leave it with you.

THE SPEAKER: Is there any further discussion of this question?

DR. R. B. WOOD: Leaving out the question of finances altogether, but if they are mentioned we should have to concur with Dr. Manier, from the standpoint of how much good an individual was going to get out of the free gift by the presentation of a copy of this history, if a man has been in the medical profession ranging from three to twenty-five years and is not sufficiently interested in the history of the profession and of the state society to spend $3, he certainly isn't going to be interested enough to read it after you present it to him. If we have a large number of volumes on hand that are not going to be bought, it seems to me that these extra copies might be presented to the younger members of the profession who are graduating from our University of Tennessee and Vanderbilt University, and with more hope that they would read it and become imbued with the spirit of the profession, which seems to be lacking greatly in some of the older members of the profession.

THE SPEAKER: Is there further discussion?

DR. MILLER: I should like to ask the Secretary if he has any idea as to how many of these 203 volumes have gone to libraries instead of to members, or to other than members.

THE SECRETARY: I couldn't give you definite figures, but I would estimate that between 25 and 40 have gone to people outside of the medical profession.

DR. MANIER: I don't want to talk particularly against this, but here is another problem that I think this body should understand. This state society operates on about the smallest state dues of almost any other society of its size in the country. One reason you have been able to do that has been that you built up slowly a capital fund, at one time close to $15,000, which gave you an unearned income of close to $1,000. That has met a lot of your problems. Each time you decrease your capital fund you decrease your unearned income from it. It is just like any other business. Sooner or later you will come in with a natural expansion of expense. That is bound to go on in all organizations of this kind. You are then going to be faced with the problem of a raise in dues. Your Board of Trustees, in considering that fact, felt that it would be the most ill-advised thing that could come to this society at the present time or in the near future. So it is not only expending your capital fund but it is expending part of perpetual income. You are lessening your perpetual assets each time you dissipate part of your capital fund.

THE SPEAKER: Is there any further discussion?

DR. COWDEN: Just one more thought. I should like to ask what is going to be done with the man who has been paying dues for the last fifteen or twenty years. These men have paid in this income. What are you going to do with that? Are you going to take what he needs and what he requires and give it to a man who has never paid any dues in at all? I believe in taking care of the man who helped to pay in to this $10,000 fund in mortgages. It belongs to those men, not for future generations. The chances are as much as any that the funds will be spent on some Bacchanalian feast. I have seen funds of that kind kept for years and then go out in a drunken brawl. I don't know whether these will go that way or not.

I am interested in the men of today who own this $10,000. They feel that they have paid for this volume. You can find them by the score in this organization.

DR. J. A. McINTOSH: I should like to ask how much effort has been put in on selling these volumes. Has it been limited to the announcements made in the Journal only? It seems to me that we might dispose of these at $3 per volume. I think it has been mentioned casually once or twice before the Memphis and Shelby County Medical Society, but certainly nobody has attempted to help the secretary in that part of the state to help sell these volumes. Disposing of things requires salesmanship and it seems to me that the members of the House of Delegates ought to help our Secretary dispose of them. I believe it can be done if you give us a little more time.

THE SECRETARY: In that case, the question seems to involve me, I believe. The committee that created the book died with its creation, when the book was produced. The Board of Trustees put them on sale at the Tennessee State meeting with high hopes of selling 500 volumes. We had that many prepared on that date. The question of giving it away was agitated all during the meeting. The books are now on sale downstairs today. A lady is employed at the expense of the Association. People were employed at the expense of the Association last year to promote the sale of the book. As soon as the question became agitated the sale stopped. I think as you do. We have gone to considerable expense in circularizing the county societies, in advertising the book in the Journal, preparing circulars, and so forth. The Board of Trustees has never felt that it warranted the expense of traveling a salesman. If they should see fit to travel a salesman, the net income from traveling the person would be doubtful. That was the conclusion reached about it. I think your idea is excellent. If the officers of the county societies and all officers were to become active in promoting the sale of the book, it could yield a revenue, and still everybody who would profit by having a book would get a book.

THE SPEAKER: Is there any further discussion?

DR. MILLER: I was a member of that committee and when the question came up last year I was opposed to this gift. We have these books on hand now and we ought to dispose of them. I should like to ask how many men here have a copy of the book. Will you hold up your hands? (Large majority). There seems to be a majority who have the book. I am very much surprised that we have had such a small sale. I agree with Dr. Cowden, if we encroach on our principal a little for this I think it would not be so bad. I don't think it would be quite as much as he thinks, because some are going to buy books from the outside, and also some libraries. I want to say, whether you do this or not, that I want to buy some books today. I want to present them to our local library. I have presented some books already. I bought four, I believe, and presented them to some of the old veteran members. I gave one of my friends a book on Christmas. I think it is a very nice Christmas present for an old doctor. I think we could do that ourselves some. Certainly, if we don't pass this through we ought to reduce the price of the book. Let the Secretary notify the secretaries of the county societies, and then have them notify their membership. Then we can dispose of these and get that money back in the treasury, if we can't do it any other way. I want to say that under the conditions, although it will encroach a little upon our principal, I think we ought to dispose of these books, and I know of no better way than that.

Then we ought to bear in mind that there will be some of those books sold to some of the libraries. I have already had a communication from one of the local libraries here about getting one of these books.

THE SPEAKER: Are you ready for the question?

DR. COWDEN: I want to request a division of the ballot.

THE SPEAKER: The chair is going to rule that it is not a main motion but a motion to rescind. You passed a resolution to have the book published and sold. That is on the record. You have to undo that now if you are going to give them away.

DR. EVERETT: The minutes of last year also mentioned that.

THE SPEAKER: Last year it was voted down also, so this is not a main motion but a motion to rescind.

DR. HOWLETT: I rise to a point of order. The question is on the adoption of the motion to adopt these recommendations. Then if that is voted down this other question comes up.

THE SPEAKER: That is correct. I stand corrected. The motion is on the chairman's report. That is right. Thank you, Doctor. It is whether this report shall be accepted or not.

DR. STEM: He wants action on the three reports separately.

THE SPEAKER: Read the three, Mr. Secretary. We will adopt them one by one.

(The Secretary read the report of the committee concerning the auditor's report as submitted in the report of the Treasurer.)

DR. MILLER: I move that the report be adopted and spread upon the record.

(The motion was regularly seconded, was put to a vote and was carried.)

THE SPEAKER: Now the next.

(The Secretary read the report of the Auditing Committee on the report of the Board of Trustees.) .

DR. STEM: Mr. Chairman, I move that the report be adopted.

(The motion was seconded and carried.)

(The Secretary read the report of the committee concerning resolution submitted by Dr. Cowden.)

DR. COWDEN: I want to correct that. That is the committee. That is not Dr. Cowden. That is the unanimous committee.

THE SPEAKER: You make that correction.

DR. EVERETT: I move adoption of the report as read.

DR. McINTOSH: I second the motion.

THE SPEAKER: All in favor of adopting this report as read will signify the same by saying aye; opposed, no.

DR. COWDEN: I want a division vote.

THE SPEAKER: All right, sir. All in favor of adopting the report as read will please rise. Mr. Secretary, will you count them?

THE SECRETARY: There are twenty-four.

THE SPEAKER: Now those opposed will rise.

THE SECRETARY: Five.

DR. MILLER: I move that the price of this volume to members of the society, sold through the Secretary, be reduced to $2 in order to get more sold. I make that motion.

THE SPEAKER: That would be a motion to rescind.

DR. COWDEN: I rise to a point of order, or as a personal privilege rather. I have the utmost confidence in the honesty, integrity, sincerity and loyalty of this House, but I have a very poor opinion of their business judgment. (Laughter.) Therefore, I notify you that we are going to meet on the floor of the general session with this proposition.

THE SPEAKER: Dr. Miller, you didn't get a second to your motion, so it goes by default.

I am going to admit that I have had very bad business judgment this last year. (Laughter.)

Are there any other committees to report?

DR. COWDEN: I should like to have a time agreed upon and set to go down there. Let's go before the general session.

THE SPEAKER: All right.

DR. COWDEN: I should like to agree on a time to go down there and see what time they will give us. I want us all to be there. I don't want to take any advantage.

DR. EVERETT: Right away.

THE SPEAKER: We can go right away. When should we appoint the committee to notify the President-elect?

DR. STEM: Now.

DR. HOWLETT: The custom has been, up to a year or so ago, for this House of Delegates simply to send a messenger to report to the general session.

THE SPEAKER: As to what we had done. Then it is up to the President of the Association to appoint the committee to present the elected officers.

DR. HOWLETT: I move that we do that.

THE SECRETARY: I move that you appoint a delegation of members of the House to notify the session of the action of the House.

DR. HOWLETT: That was my motion.

DR. STEM: About this other thing, too, about going down there.

(The motion was seconded and carried.)

THE SPEAKER: I will appoint this committee. I am also going to appoint the same committee to find out whether they will receive us at the present time.

I am going to appoint Dr. Cowden, Dr. Miller, and Dr. Stem.

DR. BURNS: I move that we adojurn sine die.

(The motion was seconded and carried, and the meeting adjourned at nine-twenty o'clock.)

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H. H. SHOULDERS, M.D., Editor and Secretary

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EDITORIAL

The Minutes of the House of Delegates

The publication of the Minutes of the last session of the House of Delegates was deferred until the last issue of the Journal for this year for very practical reasons.

Members of the House can read them now and they will be fresh in mind for the next session.

Corrections of the Minutes can be made only by the House itself and, therefore, the earlier publication of them is purposeless. Those members who have not served in the House should know what happened in the House. Those who were members of the House should read them with great care with a view to making corrections, if necessary.

The reports of the officers which are included in the Minutes should be read with care in order that you may pass judgment as to whether your officers are diligent in the performance of their duties and as to whether they have exercised good judgment and correctly represented the ideals of medicine in their various activities.

You should study the audit of the books of the Association. You should familiarize yourself with important actions that were taken in the House. Two matters in particular, one an important amendment to the by-laws, and another with reference to the annual banquet.

These Minutes appear to us to be unusually readable. The discussions are brief and to the point. For these reasons they have been included in full.

Paying for Our Folly

If the people of Tennessee get the proper lesson out of the present situation, some permanent good may come of it.

For the past several years small groups from the various communities have gone to the Legislature for aid of various sorts. Too many of which trips were successful. These delegations went back home with a feeling of deep satisfaction. They felt they had gotten something for nothing. By such steps the state has taken on activities which are not a necessary part of government at all. Now the time has come when bills are to be paid. We always pay for our folly, and this time the paying is rather painful.

It seems that taxes are to be increased at a time when they should be lowered. Private enterprises already handicapped by depression must be further handicapped to take care of public activities that are unnecessary. From what we read in the papers there is far more talk of increasing taxes to balance the budget than there is of reducing appropriations to balance the budget. This is rather the reverse of what many of us are finding it necessary to do in our private affairs. We are reducing our expenditures to stay within our family budgets. It is impossible to enumerate all the activities the state could abandon without jeopardizing a single interest anywhere.

Most of the false philosophy that has been applied to the state's affairs has been designated "*progress*" chiefly by those who were the direct (salaried) beneficiaries of such activities. At times we thought we were marching under the banner of progress. We are still marching under the same banner with the word "regret" where "progress" was written before.

There is an old proverb to the following effect, "He that governs least governs best." Less government and more individual effort and initiative will carry us much further.

If we get this lesson out of the present situation, we will have been compensated to a large extent for our discomfitures.

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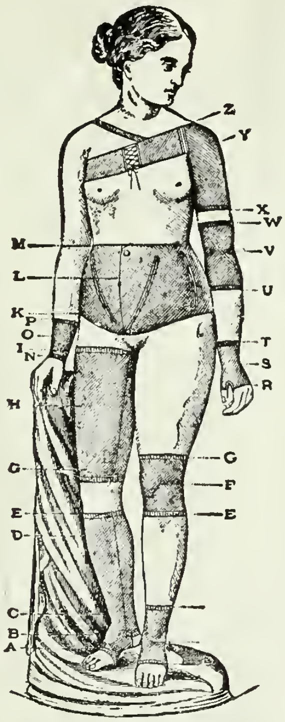

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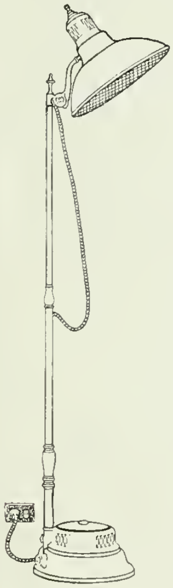

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